Getting Results

PART II

California Action Guide to Tobacco Use Prevention Education

CALIFORNIA DEPARTMENT OF EDUCATION
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Preface

Tobacco use is the single most preventable cause of death and disease. It is a critical factor in four of the five leading causes of death in California: heart disease, cancer, chronic obstructive lung disease, and fires caused by smoking. Seventeen percent of the state's population are current smokers; more than 42,207 Californians die each year from tobacco-related diseases. Additionally, tobacco use costs the California economy more than $85.6 billion a year in health-related costs.

The tobacco industry spends $1 million per day in California promoting its products, and much of this promotion is directed at youth. What are the effects of the industry's efforts to promote youth tobacco use in California? The 1997-98 California Student Substance Use Survey reported that "there is little evidence that meaningful inroads have been made in adolescent smoking over the past decade" (Skager and Austin 1998, p. 7). The Survey reported a smoking rate of 29 percent among eleventh graders in 1997, about the same as in 1993 and 1995. Preliminary findings of the independent evaluation of California's Tobacco Control Program showed that the smoking rate for tenth graders in schools without a Tobacco Use Prevention Education (TUPE) grant was 26 percent.

Although smoking rates among young people in California are high, they are still lower than national figures. The Youth Risk Behavior Survey (1998) of 16,000 U.S. high school students found that over the preceding 30 days, 36 percent of students reported smoking at least one cigarette, 16 percent reported smoking on at least 20 of the previous 30 days, and 70 percent reported trying cigarettes.

Recent research underscores the need to convince young people not to use tobacco. The National Household Survey on Drug Abuse (1998) of 25,500 persons found that youths between the ages of twelve and seventeen who smoked were 11.4 times more likely to use illicit drugs and 16 times more likely to drink heavily than nonsmoking youths. New findings (Wiencke 1999) show that teen smokers cause permanent genetic damage to their lungs and increase their risk of developing lung cancer. Levels of DNA mutation among lung cancer patients were higher among those who started smoking at a young age, **regardless of when they stopped smoking**.

Cigarette smoking is not the only cause of tobacco-related illness. Cigar smoking, increasingly popular with young people, heightens the risk of cancers of the mouth, pharynx, esophagus, and lungs. Other forms of tobacco use, such

as using a pipe or smoking bidis (flavored cigarettes from India that contain up to 8 percent nicotine, compared to 1 to 2 percent in American cigarettes), also pose health risks. Use of smokeless tobacco is a significant factor in cancers of the mouth, pharynx, and esophagus and in gum recession; and it increases the risk of heart disease and stroke.

The serious health risks of tobacco addiction, the relationship between tobacco use, heavy use of alcohol and use of illicit drugs, and the increasing rates of tobacco use are what makes this volume, Part II of *Getting Results,* so important. By teaching our young people to avoid tobacco use today, we can save thousands of lives in the future and reduce the staggering cost of tobacco-related disease on our society. Achieving this goal is a major challenge, however, because the tobacco industry has very substantial resources for promoting tobacco use among young people. Therefore, it is all the more important that schools use their limited prevention funds to implement those strategies shown by research to be the most effective.

By taking into account the recommendations presented in this document and planning local programs in accordance with research-based principles of effectiveness, local districts, individual schools, and the community can create comprehensive tobacco use prevention and cessation programs with greater promise for actually reducing and preventing tobacco use.

The California Department of Education welcomes feedback from schools, school districts, and communities about *Getting Results;* comments will be used to guide the development of updated materials. A feedback form is included with this document.

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CHAPTER 1

Introduction

THE CHAPTER AT A GLANCE

This *Action Guide* is designed to assist in planning and implementing an effective tobacco use prevention education program that is grounded in research, meets the requirements of the Tobacco Use Prevention Education (TUPE) legislation, responds to the unique character of the district's students and community, and above all, gets results.

◆

The California Department of Education's Tobacco Use Prevention Education (TUPE) Program is one component of the statewide Tobacco Control Program. The goal of the statewide program is to change social norms around the use of tobacco.

◆

Tobacco use prevention education in California schools is reinforced by statewide and community-based public health programs. Schools and county health agencies are strongly encouraged to work together in their antitobacco efforts.

◆

Schools are recognized as vital to tobacco use prevention and cessation among youth. One of the recommendations of the Tobacco Education and Research Oversight Committee in its 1997–2000 Master Plan was that school-based tobacco use prevention education programs be strengthened consistent with emerging research.

Purpose of the *California Action Guide to Tobacco Use Prevention Education*

This *Action Guide* is written for all those within districts and schools who are responsible for implementing the Tobacco Use Prevention Education (TUPE) program. The guide is designed to assist in planning and implementing an effective tobacco use prevention education program that is **grounded in research, meets the requirements of the TUPE legislation, responds to the unique character of the district's students and community, and above all, gets results**.

Because of the national and state emphasis on accountability in alcohol, tobacco, and other drug (ATOD) programs, this guide focuses on what works—and does not work—in preventing or reducing tobacco use in schools. It is intended to give schools and districts a greater understanding of the various elements that go into a comprehensive tobacco use prevention program for students and employees, a program that involves parents and can be coordinated with community groups and agencies. The guide also provides resources and suggestions for creating an effective TUPE program.

Tobacco Control: A Statewide Perspective

In November 1988, California voters approved Proposition 99 that increased, by 25 cents, the tax on each pack of cigarettes sold in the state. These tax revenues are being used to support the efforts of California's Tobacco Control Program to *denormalize* the use of tobacco—to alter the social and legal environment so that tobacco use is considered undesirable. In November 1998, Proposition 10 (The California Children and Families Act) passed and raised cigarette taxes another 50 cents per pack. Some of these revenues will also be used for Prop 99-funded programs.

The Tobacco Control Program involves the schools, health departments, community-based organizations, and the media. Its target audience is every adult and child in the state. The Department of Education's TUPE Program, designed to reduce and prevent tobacco use by youths, is the school-based component of the comprehensive statewide Tobacco Control Program.

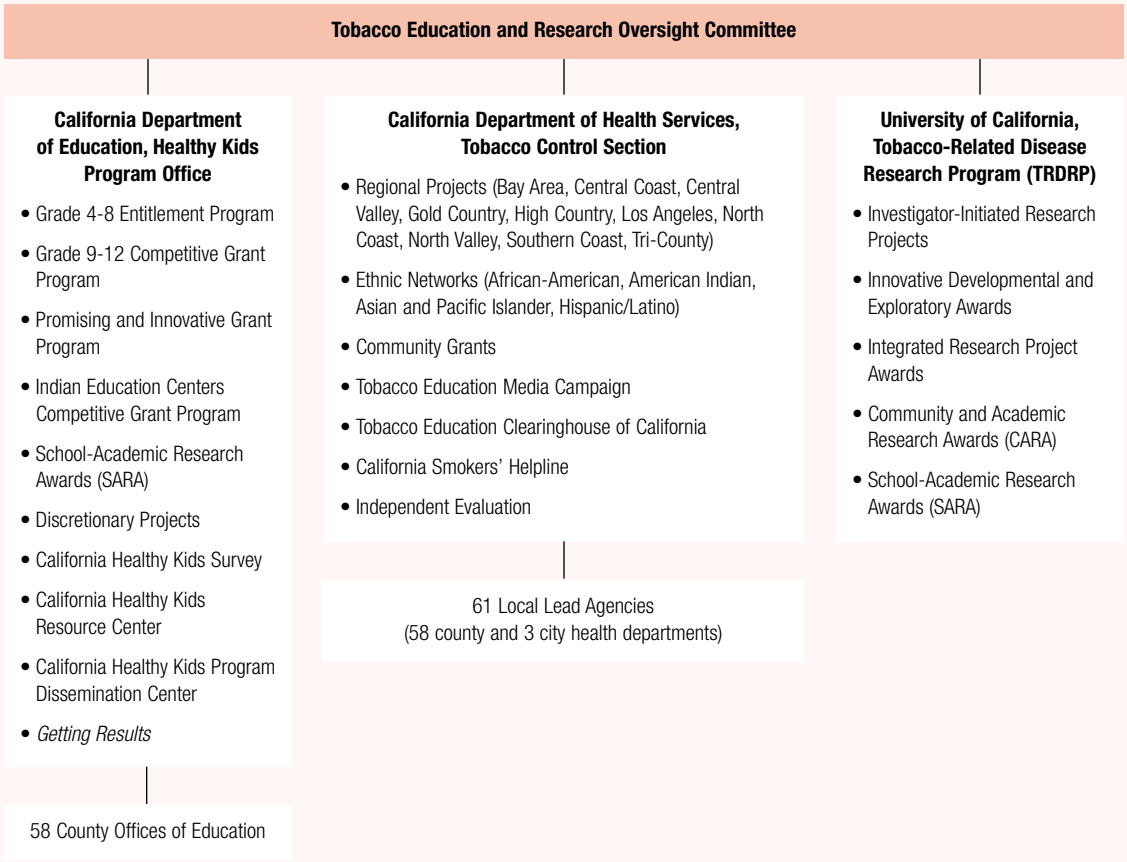
Chapters 2 and 3 of this guide describe the TUPE program in depth. In addition, Appendix C contains the legislation for California's program (Health and Safety Code sections 104350 through 104480). Sections 104420 through 104470 detail the program mandates for the California Department of Education, county offices of education, and school districts.

The California Department of Health Services (DHS) is responsible for the community-based public health components of the Tobacco Control Program. That department funds an extensive and elaborate network of tobacco control programs to saturate local communities with antitobacco messages and materials. School-based tobacco use prevention programs are therefore reinforced by antitobacco messages and resources in their communities. Figure 1 outlines California's Tobacco Control Program at a glance.

All projects funded by DHS address four priority areas: (1) eliminating exposure to secondhand

FIGURE 1

California's Tobacco Control Program



tobacco smoke; (2) reducing availability of tobacco to youths; (3) countering pro-tobacco influences, such as advertising, promotions, and sponsorships; and (4) assisting people to give up the use of tobacco products. Among the programs funded by DHS that are relevant to school-based efforts are a statewide media campaign (with television, radio and billboard ads); county departments of health that often conduct youth advocacy projects; community-based grants that may target school-age children; and a Smoker's Helpline that provides materials and counseling to youths and adults. Many of the materials produced through these efforts are appropriate and available to schools through the Tobacco Education Clearinghouse of California (TECC) (see Appendix A).

Recommendations for the California Tobacco Control Program, 1997-1999

Tobacco Education and Research Oversight Committee

1. Vigorously expose tobacco industry tactics. Tobacco companies mislead the public regarding the addictiveness and health effects of tobacco. They sustain community support through sponsorships and purchase political influence through campaign contributions. These tactics have a tremendous influence on the health of Californians, and tobacco control efforts should be focused on exposing them.

2. Press for smoke-free workplaces and homes. Secondhand smoke is the third leading cause of preventable death in the nation. Attempts by the industry to limit smoke-free workplace restrictions must be fought, and efforts to educate employers and employees concerning the right to a smoke-free workplace need to be intensified. Efforts must be continued to educate families about the threat posed to their children by tobacco smoke at home.

3. Accelerate cessation of smoking in persons between the ages of 20 and 39. Reducing smoking by young adults will help deter smoking by children, since adults serve as role models, and will also help reduce secondhand smoke exposure of both youths and adults.

4. Strengthen school-based tobacco use prevention education programs consistent with emerging research. Because tobacco prevention is only one of a multiplicity of goals schools must fulfill in their limited time with students, strategies must be efficient and effective. Schools should carefully select tobacco use prevention education programs and activities that have been evaluated and shown to work. Tobacco-free school policies must also be enforced.

5. Implement more effective control of tobacco sales to minors. Many tobacco retailers are unaware that it is illegal to sell cigarettes to minors. Youth access laws are resistant to self-enforcement because neither the seller nor the buyer has an incentive to report illegal sales of tobacco. One solution is to license tobacco retailers.

6. Generate and adopt additional smoking prevention and cessation strategies that are relevant to the many racial and ethnic populations in California. As the tobacco industry devises new tactics for persuading ethnic populations to smoke, research is needed to determine which strategies are most effective in these diverse communities to vigorously prevent tobacco use.

7. Link Proposition 99-financed research and evaluation efforts closely with Tobacco Control Program activities. Results from applied research on smoking funded by the University of California's TRDRP should be disseminated to all programs and schools in the Tobacco Control network so that activities are based on what research shows to be effective. Conversely, creating research priorities from program needs will ensure the continued flow of new knowledge that will further enhance program effectiveness.

In spite of a growing anti-tobacco mood across the nation, youths still see too many adults smoking in their daily lives and in the media. There are still too many societal cues telling them that tobacco use is desirable. ... In keeping with the social norm change model, the "next generation" cannot be saved without changing the generations who have already reached adulthood. (California Department of Health Services 1998)

County health departments (called local lead agencies) are encouraged by DHS to work closely with schools in their counties to jointly plan and implement tobacco use prevention education for youths. See Appendix B for a list of local lead agencies that have tobacco control programs.

Proposition 99 funds also are used to support research on tobacco-related disease. The Tobacco-Related Disease Research Program (TRDRP) at the University of California administers a research program to facilitate the elimination of smoking in California. Youth intervention is one of nine priority research areas within TRDRP. The new School-Academic Research Award (SARA) mechanism, a joint project of CDE and TRDRP, will provide funding to both LEAs and university researchers to collaboratively investigate effective school-based tobacco prevention strategies.

Schools are a vital arena for promoting tobacco use prevention and cessation among youths. Together with community groups and public health departments, schools form a statewide movement to promote and protect the health of youths and adults. Youths are mentioned frequently in the recommendations of the legislative oversight committee for the Tobacco Control Program. The Tobacco Education and Research Oversight Committee (TEROC) is appointed by the Governor, the Legislature, and the Superintendent of Public Instruction. This committee is mandated to produce a Master Plan that reports on the accomplishments of the program and makes recommendations for future program activities for the Department of Health Services, the California Department of Education, and the University of California. The recommendations from TEROC's most recent Master Plan (1997)[1] are shown on the facing page.

Overview of the Guide

This introductory chapter outlines the relationships between school- and community-based components of the statewide Tobacco Control Program and briefly describes the components and goals for the public health portion of the program. Because research shows that comprehensive prevention programs are most effective, schools, health departments, and community organizations have the opportunity to work together in a coordinated and complementary fashion within the statewide program.

Chapter 2 narrows the focus to school-based programs and contains an overview of the requirements and range of authorized activities of TUPE and how these relate to the national Principles of Effectiveness published by the U.S.

[1] As described in *Toward a Tobacco-Free California: Renewing the Commitment, 1997–2000,* available from the Tobacco Control Section, Department of Health Services, P.O. Box 942732, Sacramento, CA 94234-7320.

Department of Education. There is also a summary of findings from the independent evaluation of the TUPE program that may be useful to schools as they plan or revise their programs.

The third chapter outlines the "nuts and bolts" steps for designing a comprehensive TUPE program, including how to select strategies that have shown themselves to be effective and that show promise. It also includes statewide resources that can help schools in implementing their programs.

Chapters 4 and 5 describe research-based strategies and promising practices for tobacco prevention instruction, smokeless tobacco prevention instruction, and smoking cessation. Taken together, these chapters describe a variety of approaches and practices from which districts can put together a comprehensive TUPE program. Chapter 4 also provides an overview of how to understand prevention research and evaluation.

Chapter 6 consists of summaries of key research studies and evaluations of a variety of tobacco prevention programs. **Many of the summaries describe effective programs. Other summaries provide a broader view of what it takes to adopt comprehensive programs that work.** The summaries were written by a panel of research experts in tobacco prevention for youths and were reviewed by the Concept Team and educators listed in the Acknowledgments.

Finally, there are appendixes containing prevention resources, local lead agency (LLA) contacts, legislation, and findings from the independent evaluation of the Tobacco Control Program.

Summary

In summary, schools are a vital component of California's Tobacco Control Program and are part of a statewide effort to change the social norms around tobacco use and thereby make tobacco unacceptable to young people. The numerous statewide, regional, and local projects funded by the California Department of Health Services with Proposition 99 revenues provide a wealth of resources to schools. They also create an antitobacco environment that supports school-based tobacco prevention programs.

CHAPTER 2

Tobacco Use Prevention Education (TUPE): Requirements, Recommendations, and Resources

THE CHAPTER AT A GLANCE

The purpose of the Tobacco Use Prevention Education (TUPE) program is to reduce tobacco use among youths by employing proven, research-based prevention practices.

◆

To be eligible for TUPE funds, school districts and county offices of education must be certified by the California Department of Education (CDE) as being tobacco-free zones according to the criteria stated in the *Health and Safety Code.*

◆

TUPE funding is provided for: (1) grades four through eight as an entitlement program based on average daily attendance (ADA); (2) grades nine through twelve as a competitive grant program; (3) promising and innovative programs on a competitive basis; and (4) Indian Education Centers on a competitive basis.

◆

Any California district that receives TUPE funding must develop its tobacco use prevention education program within the same Principles of Effectiveness that govern alcohol, drug, and violence prevention programs funded by the federal Safe and Drug-Free Schools and Communities Act (SDFSCA).

◆

The Coordinated Compliance Review (CCR) specifies the minimum requirements of the TUPE program for school districts along several key dimensions.

◆

The California Tobacco Prevention Guidelines are CDE's recommended guidelines for planning and implementing TUPE programs. They are based on guidelines developed by the U.S. Centers for Disease Control and Prevention and on research-based evidence of effectiveness.

continued

THE CHAPTER AT A GLANCE, CONTINUED

The Healthy Kids Program Office in the California Department of Education provides assistance to schools and districts to support their implementation of effective TUPE programs. Assistance comes from the California Healthy Kids Survey, the California Healthy Kids Resource Center, the California Healthy Kids Program Dissemination Center, materials and training, and county offices of education.

◆

Preliminary data of the second "wave" (1996-1998) of an independent evaluation of the implementation of the TUPE program in California schools found that, compared to wave 1 (1995-96) baseline results, the majority of school districts have tobacco-free policies; there was a significant increase in the proportion of middle/junior high school teachers who teach tobacco prevention; and significantly more TUPE grantee high schools had cessation programs than did nongrantee high schools. Based on evaluation findings, the evaluators provide useful recommendations for districts as they plan and modify their programs.

This chapter contains information about the state's requirements for Tobacco Use Prevention Education (TUPE) programs funded by Proposition 99 and about guidelines that are strongly *recommended* by the California Department of Education for creating or modifying programs that are effective in reducing and preventing the use of tobacco among young people. The chapter also lists statewide resources that are available to districts for planning and implementing the programs. Recommendations from the independent evaluation of California's Tobacco Control Program that districts can use to help plan or modify their TUPE activities appear at the end of the chapter.

TUPE Program Requirements

The purpose of the TUPE program is to reduce youth tobacco use by employing proven, research-based prevention practices. Collaboration with community-based tobacco control programs is an integral part of program planning (see Chapter 1 for a description of community programs that are funded by Proposition 99). The school, parents, and the larger community must be involved in the program: research (e.g., Tobler 1993, Silvia and Thorne 1997) has consistently demonstrated that a coordinated school/community program is more effective than one that involves the school alone.

Funding Eligibility

To be eligible for TUPE funds, school districts and county offices of education must be certified by CDE as having met requirements of being tobacco-free areas according to the criteria stated in the *Health and Safety Code* (see Appendix C). These criteria include:

- A tobacco-free policy must be adopted and enforced no later than July 1 of the current fiscal year. The policy shall prohibit the use of tobacco products, any time, in district-owned or leased buildings, on district property, in vehicles on district property, and in district vehicles.
- Information about the policy and enforcement procedures must be communicated clearly to school personnel, parents, students, and the larger community.
- Signs stating "Tobacco use is prohibited" must be prominently displayed at entrances to the school property.
- Information about smoking cessation support programs must be made available and encouraged for students and staff.

Funding Components

The TUPE program administered by CDE includes the following four components:

Grades four through eight. The funding for this entitlement program is based on average daily attendance (ADA). Application for these funds is through the Consolidated Application. Funds received under this program must address each of the five grades. **Instructional strategies** must, at a minimum, address the following TUPE essential topics:

- Immediate and long-term undesirable physiologic, cosmetic, and social consequences of tobacco use.
- Reasons that adolescents say they smoke or use tobacco.
- Peer norms and social influences that promote tobacco use.
- Refusal skills for resisting social influences that promote tobacco use.

In addition, the program must offer **school-based strategies** of outreach, intervention, and counseling to students.

Annual program reports are required of districts that receive entitlement grants for grades four through eight.

Grades nine through twelve. The TUPE component for grades nine through twelve is funded through a competitive grant request for applications (RFA) process to "enable schools to develop prevention education, intervention and cessation programs, and youth development programs directed at the reduction of tobacco use among students in grades nine through twelve." Priority is given to programs that:

- Target current smokers and students who are most at risk for beginning to use tobacco, including: (1) young women; (2) low-achieving students; (3) students from families whose members include tobacco users; and (4) students who associate with peers who use tobacco.
- Offer or refer students to precessation readiness classes or cessation classes for current smokers.
- Utilize existing antismoking resources, including local antismoking efforts by local lead agencies (health departments) and competitive community grant recipients.

Programs for grades nine through twelve funded through this RFA process usually receive two years of funding support. Program monitoring and evaluation are key components of the program. Participation is required in the California Healthy Kids Survey and evaluation activities to determine if measurable objectives are achieved. Grantees must follow a rigorous report and documentation process as a condition of funding.

Promising and innovative programs. The purpose of these programs is to develop and test promising and innovative strategies that have a

high potential to reduce tobacco use among in-school youths. These programs are funded for two years through a competitive request for applications process. At the end of an evaluation and panel review process, innovative projects are selected for dissemination. Innovative projects currently being disseminated are described in Chapter 5.

The California Healthy Kids Program Dissemination Center (CHKPDC) (see Appendix A) acts as a statewide dissemination service for these promising and innovative model programs as well as for other model school prevention programs. The CHKPDC provides school districts with the resources needed to adopt and successfully implement these programs, including the provision of program-related information, facilitation of training, and delivery of technical assistance.

Indian Education Centers. Indian Education Centers are funded to develop effective, culturally sensitive programs to prevent tobacco addiction among Native American populations. Because tobacco is a sacred plant to Indian people, the messages of these programs will differ from those appropriate for non-Indian youths. For example, the Medicine Wheel Project implemented by Resources for Indian Student Education (RISE) focuses on preventing commercial tobacco use with an emphasis on "who" Indian people are, the traditions of sacred plants and positive behaviors associated with them, and student leadership and empowerment.

Relationship of TUPE and Safe and Drug-Free Schools and Communities (SDFSC) Programs

TUPE funds are for programs in grades four through eight and grades nine through twelve. However, the Safe and Drug-Free Schools and Communities (SDFSC) program requires that tobacco prevention—together with alcohol and other drug and violence prevention—occurs for all students in each grade, including kindergarten through grade three and grades nine through twelve, even when programs for those grades are not funded by TUPE.

Tobacco is included in the legislation that established the SDFSC program. As stated in Title IV of the Improving America's Schools Act—Safe and Drug-Free Schools and Communities:

> ***"The purpose of this title is to support programs that meet the seventh National Education Goal by preventing violence in and around schools and by strengthening programs that prevent the illegal use of alcohol, tobacco and drugs, involve parents, and are coordinated with related Federal, State, and community efforts and resources...."***

Thus, any district that receives Title IV funding is obligated to develop its tobacco use prevention education program within the same set of Principles of Effectiveness that govern alcohol, drug, and violence prevention programs.

These principles became effective July 1, 1998. **The California Department of Education expects districts to implement their TUPE program in accordance with the same requirements for needs assessment, measurable objectives, research-based practices, and evaluation as are described in the SDFSC Principles of Effectiveness.** Legal assurances governing the receipt of TUPE and SDFSC funding require districts to certify acceptance of the Principles of Effectiveness as a basic legal condition for the operation of the SDFSC and TUPE programs.

Districts should strive to integrate and coordinate their TUPE and SDFSC programs. The

The National Principles of Effectiveness

The national Principles of Effectiveness **require** every school district to:

- Base its programs on a thorough assessment of objective data about the drug and violence problems in the schools and communities served;
- With the assistance of a local or regional advisory council, establish a set of measurable goals and objectives and design its programs to meet those goals and objectives;
- Design and implement its programs for youths based on research or evaluation that provides evidence that the strategies used prevent or reduce drug use (including tobacco), violence, or disruptive behavior among young people; and
- Evaluate its programs periodically to assess its progress toward achieving its goals and objectives, and use its evaluation results to refine, improve, and strengthen its program and to refine its goals and objectives as appropriate.

Healthy Kids Program Office at the CDE has taken steps to unify many program and administrative requirements of TUPE and SDFSC to support this integration and coordination.

Coordinated Compliance Review

The Coordinated Compliance Review (CCR) specifies the requirements of the TUPE program for school districts along several key dimensions. Because of the close interrelationship between TUPE and SDFSC, the CCR items and requirements are designed to jointly address tobacco, drug, and violence prevention programs. They are based on the national Principles of Effectiveness and the legislative requirements of TUPE described in this chapter.

Recommended California Guidelines for Tobacco Prevention

The California Department of Education has adopted recommended guidelines for tobacco prevention that are based on a document produced by the U.S. Centers for Disease Control and Prevention (CDC) entitled *Guidelines Related to School Health Programs to Prevent Tobacco Use and Addiction* (1994). CDE's guidelines are adapted to the specific legal requirements and needs of California. They are *congruent with the SDFSC and TUPE requirements* described above and *are based on research about the elements of effective programs.* They include the following:

TABLE 1

TUPE Requirements and Recommended Guidelines

REQUIRED: TUPE LEGISLATIVE REQUIREMENTS	*REQUIRED:* NATIONAL PRINCIPLES OF EFFECTIVENESS	*RECOMMENDED:* CALIFORNIA GUIDELINES FOR TOBACCO PREVENTION
To be eligible for TUPE funds, districts and county offices of education must be tobacco free. Districts and county offices of education must be certified as meeting the requirements of being tobacco free as stated in the Health and Safety Code: • Adopt and enforce a tobacco-free policy. • Display signs at entrances to school property stating "Tobacco use is prohibited." • Clearly communicate the policy to the school community. • Make available information about smoking cessation support programs to students and staff.	**For receipt of TUPE funds, districts must certify acceptance of the national Principles of Effectiveness.** • Base programs on a thorough assessment of objective data about the drug and violence problems in the schools and communities served. • With the assistance of a local or regional advisory council, establish a set of measurable goals and objectives and design programs to meet those goals and objectives. • Design and implement programs for youths based on research or evaluation that provides evidence that the strategies used prevent or reduce drug use (including tobacco), violence, or disruptive behavior among youths. • Evaluate programs periodically to assess progress toward achieving goals and objectives, and use the evaluation results to refine, improve, and strengthen the program and to refine goals and objectives as appropriate.	**Schools are encouraged to develop tobacco use prevention education and cessation programs that reflect the research-based California Guidelines for Tobacco Prevention.** • Design a program that is comprehensive, responsive to local needs and assets, and based on the national Principles of Effectiveness. • Establish and enforce a school policy on tobacco use. • Provide developmentally appropriate tobacco use prevention education in kindergarten through grade twelve; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school. • Provide instruction about social influences on tobacco use, peer norms regarding tobacco use, refusal skills, and short- and long-term negative physiologic and social consequences of tobacco use. • Provide program-specific training for teachers. • Involve parents, families, and community in support of school-based programs to prevent tobacco use. • Support cessation efforts among students and all school staff who use tobacco. • Promote youth development in caring environments. • Evaluate the tobacco use prevention program at regular intervals until it demonstrates that it is *getting results.*

1. **Design a program that is comprehensive, responsive to local needs and assets, and based on the national Principles of Effectiveness.**[2]
2. **Establish and enforce a school policy on tobacco use.** (This is also a requirement for TUPE funding.)
3. **Provide developmentally appropriate tobacco use prevention education in kindergarten through grade twelve; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school.**
4. **Provide instruction about social influences on tobacco use, peer norms regarding tobacco use, refusal skills, and short- and long-term negative physiologic and social consequences of tobacco use.**
5. **Provide program-specific training for teachers.**
6. **Involve parents, families, and community in support of school-based programs to prevent tobacco use.**
7. **Support cessation efforts among students and all school staff who use tobacco.**
8. **Promote youth development in caring environments.**
9. **Evaluate and revise the tobacco use prevention program at regular intervals until it demonstrates that it is *getting results*.** (All LEAs are encouraged to utilize the California Healthy Kids Survey, and all recipients of TUPE grants for grades nine through twelve must do so as a condition of receiving funds as part of their evaluation efforts.)

Table 1 on page 12 displays at a glance the requirements and recommended guidelines for TUPE programs. The recommended Guidelines for Tobacco Prevention are elaborated on in the next chapter.

Resources for TUPE Programs

The California Department of Education (CDE) is responsible for implementing the TUPE program in California and is sponsoring several projects to help county offices of education and districts plan and implement their programs. These appear in Table 2 and are described fully below.

Getting Results

Activities of the *Getting Results* project are intended to help districts more effectively utilize their limited prevention funds to successfully prevent tobacco use. Districts are encouraged to abandon strategies that have not been effective and adopt strategies that research shows to be effective and promising.

Products include training materials (available from county TUPE coordinators), two action guides (Part I, *California Action Guide to Creating Safe and Drug-Free Schools and Communities* and Part II, *California Action Guide to Tobacco Use Prevention Education),* and annual *Getting Results* updates.

[2] TUPE-funded programs are required to follow the national Principles of Effectiveness.

TABLE 2

CDE Projects to Support TUPE

PROJECT	PURPOSE
Getting Results	Help districts identify and use effective research-based alcohol, tobacco, and other drug (ATOD) programs and strategies.
California Healthy Kids Survey	Help districts systematically collect ATOD prevalence data for use in program planning and evaluation.
California Healthy Kids Resource Center	Provide resources, including program materials, curricula, and research articles for ATOD prevention.
California Healthy Kids Program Dissemination Center	Disseminate promising and innovative programs in tobacco use, plus model drug-free school programs.
County offices of education	Provide leadership and technical assistance to school districts.

California Healthy Kids Survey

Because the national Principles of Effectiveness emphasize accountability, CDE is focusing on the *systematic collection of measurable data,* including prevalence data, to demonstrate that programs and strategies being implemented actually do reduce tobacco use among youths. Specifically, CDE has developed the California Healthy Kids Survey, which currently supports all districts in conducting student surveys in grades five, seven, nine, and eleven to determine the prevalence of tobacco use. In addition, a resilience module helps schools assess students' assets, protective factors, and resiliency traits. Other modules in the survey allow LEAs to determine prevalence across a wide range of health behaviors, including violence, alcohol and other drug use, diet/nutrition, physical activity, and general health; and sexual behavior, pregnancy, and HIV risk.

California Healthy Kids Resource Center

The third project supporting effective tobacco use prevention is the California Healthy Kids Resource Center (CHKRC). The Resource Center provides, free of charge, videos, documents, and instructional materials related to effective prevention programs. Its on-line catalog of reviewed tobacco use prevention education materials contains instructional materials that have been evaluated as high quality by the Resource Center's material review boards, which are composed of educators and health professionals experienced in health education. The materials are reviewed using criteria developed from educational and scientific research on effective health instruction. Only those materials that meet the criteria are included in the collection. In addition, the Resource Center maintains a circulating collection of the published research articles that are

summarized in Chapter 6. See Appendix A for information on how to reach the Resource Center.

California Healthy Kids Program Dissemination Center

Another project supported by the CDE is the California Healthy Kids Program Dissemination Center (CHKPDC), which is a statewide dissemination service for research-based or promising tobacco use prevention education and intervention model programs as well as safe and drug-free school model programs. The CHKPDC is developing a statewide database of programs in use for prevention and intervention of alcohol, tobacco, and other drug use and violence. The CHKPDC will provide school districts and county offices of education with the information, training, and technical assistance to adopt and successfully implement these programs. These services and all related materials are available at no cost.

County Offices of Education

County offices of education receive TUPE and SDFSC funding to support leadership and technical assistance for local tobacco-prevention efforts. The county's TUPE coordinator develops and implements the county's program and provides training and technical assistance to districts and schools on designing effective programs for youths, assessment and evaluation activities, and other TUPE responsibilities. The county's TUPE coordinator is also responsible for building strong relationships between the schools and the county health department, local lead agencies, and other learning support initiatives. The county TUPE coordinator must review each district's Consolidated Application, Part II, and Annual Program Report within its jurisdiction. The CDE also encourages county TUPE coordinators to provide local leadership to encourage prevention approaches that promote asset development and resiliency.[3]

Finally, the CDE supports county offices of education in providing leadership and technical assistance to school districts in adopting and implementing effective prevention programs to keep students tobacco free. The county offices of education assume multiple responsibilities in regard to TUPE:

- Provide leadership and vision to a countywide tobacco use education and prevention program.
- Become familiar with relevant research regarding the effectiveness of various models of antitobacco use programs.
- Conduct an assessment of each district's needs for training and technical assistance.
- Provide technical assistance to schools and school districts on designing effective tobacco use prevention education programs.
- Provide training on this topic to district and county personnel.
- Assist the California Department of Education in TUPE compliance issues.

The county offices of education are an extension of the CDE and will be providing training opportunities to districts and school staff in their counties.

[3] The 1999 *Update* to *Getting Results (Positive Youth Development: Research, Commentary, and Action)* addresses these topics in detail.

Independent Evaluation of the Tobacco Control Program

California's Tobacco Control Program is being evaluated on an ongoing basis by an Independent Evaluation Consortium of the Gallup Organization, Stanford University's Center for Research in Disease Prevention, and the University of Southern California's Institute for Health Promotion and Disease Prevention Research. The University of Southern California is responsible for evaluating evidence specifically related to California's School Tobacco Use Prevention Education Program.

The ongoing evaluation includes three sequential, cross-sectional waves of data collection. The first wave was conducted from October 1996 to February 1997 and focused on calendar years 1995 and 1996. The second wave of data collection was conducted in early 1998, while the third will be completed in late 1999. Data from the second and third waves will be compared to the first wave of data collection, which serves as a baseline. Data sources include school-based surveys of youths, teachers, school-site administrators, and TUPE coordinators for the school districts.

Recommendations from the independent evaluation Final Report (1999) are included here to help program planners to strengthen or modify aspects of their TUPE program. Specific findings of the evaluation will also be useful in planning a TUPE program; these are included in Appendix D.[4]

The Independent Evaluation Consortium found improvement in several aspects of the TUPE program between the first and second waves of the evaluation. On the basis of preliminary findings from the second wave, the evaluators made the following recommendations to those at both the local and state levels to improve the TUPE program across the state:

1. **Enforce tobacco-free policies.** Now that the vast majority of school districts have developed tobacco-free policies (97 percent), **schools should continue to emphasize compliance with and enforcement of those policies.**

2. **Emphasize tobacco prevention education in the middle/junior high years.** There was an increase between 1996 and 1998 in the proportion of middle/junior high school health and science teachers who reported delivering tobacco prevention lessons (from 61 percent to 72 percent of eighth-grade teachers, which was not statistically significant). However, in both years of the evaluation, the prevalence of tobacco instruction by middle/junior high school health and science teachers was similar to the rates of instruction by elementary school teachers. The majority of middle/junior high health and science teachers (74 percent) believed their district expected them to teach tobacco prevention.

   These findings suggest that, in accordance with CDC guidelines, **greater emphasis should be placed on tobacco prevention education in the middle/junior high school years.** The California Department of Education should emphasize to school districts that middle/junior high schools are expected to provide tobacco prevention lessons. In addition, they should make a greater effort to disseminate effective psychosocial-based curriculum materials and provide program-specific teacher training to prepare teachers to implement these programs.

[4] Copies of the full evaluation report can be obtained from the Tobacco Control Section, California Department of Health Services, Box 942732, Sacramento, CA 94234-7320.

3. **Focus instruction on psychosocial factors**. Tobacco instruction is still more likely to address the physiological consequences of tobacco use rather than the psychosocial factors that are associated with tobacco use, such as beliefs about peer norms, refusal skills, and social influences on tobacco use. **Effective tobacco programs that focus on psychosocial factors should continue to be emphasized and disseminated by CDE.**
4. **Continue to publicize and improve approaches to cessation and prevention**. Significantly more TUPE grantee high schools (92 percent) had cessation programs than did nongrantee high schools (42 percent). However, student smokers in grantee schools were equally as unlikely to know about the programs as were smokers in nongrantee schools. Smokers in grantee schools were no more likely to have tried to quit in the past year than were smokers in non-grantee schools. **High schools that receive competitive grants should continue to receive technical assistance on effective approaches to tobacco cessation and prevention at the high school level.** The CDE should continue to emphasize local evaluation of high school programmatic approaches.

The Independent Evaluation Consortium report has clarified specific steps any school district can take to improve the outcomes of its TUPE efforts. The ongoing findings of this important evaluation effort will be used to both monitor and refine how TUPE funds are used and how program supports are implemented.

Summary

In summary, districts should consider the following key points:

- It is critical that a district enforce its tobacco-free policy vigorously and consistently.
- Programs must address tobacco at all grade levels in accordance with the SDFSC statutes.
- Effective programs employ a range of prevention activities that draw on both research-based and promising strategies that affect behavior, consistent with the Principles of Effectiveness.
- Tobacco use prevention activities from previous years should be continued **only if they have demonstrated effectiveness** in accordance with the Principles of Effectiveness.
- Districts are encouraged to follow the California Guidelines for Tobacco Prevention, which are consistent with TUPE requirements and are based on what research and evaluation show to be effective.
- Districts should consider the recommendations from the Independent Evaluation report as they plan and/or modify their TUPE programs.

CHAPTER 3

Designing a Comprehensive TUPE Program[5]

THE CHAPTER AT A GLANCE

A comprehensive TUPE program includes multiple components, such as age-appropriate classroom instruction, skills training for all students with ongoing booster sessions, student assistance programs, student support groups, individual and/or group counseling, parent education, communitywide involvement, and clear school policies related to tobacco use. These components should target both the general student population and students who are using tobacco.

◆

Program administrators must implement the Principles of Effectiveness and are strongly encouraged to incorporate the research-based California Guidelines for Tobacco Prevention (see Chapter 2).

◆

The core and tobacco modules of the California Healthy Kids Survey (CHKS) may be used to identify local needs related to tobacco use and to evaluate progress toward performance indicators.

◆

School districts should not try to design their own TUPE curriculum; rather, they should review the evidence of effectiveness among existing curricula to find the ones that are most appropriate to students in their district.

◆

Districts should evaluate the source of tobacco use prevention materials; some are provided by the tobacco industry and may not be effective.

continued

[5] Information about designing an SDFSC program is contained in Chapter 3 of *Getting Results,* Part I.

THE CHAPTER AT A GLANCE, CONTINUED

Research shows that providing ten tobacco-specific sessions each year in grades six through nine is the ideal program intensity and results in greater effectiveness.

◆

When implementing a **classroom prevention curriculum**, it is important to adhere to the original design and plan of the program, including the number of hours of classroom instruction specified.

◆

Tobacco use prevention instruction should be developmentally appropriate and offered in kindergarten through grade twelve, with a special emphasis on grades six through nine. Booster sessions should be offered in high school to reinforce the lessons taught in middle school.

◆

Teachers should receive program-specific training in the program they are expected to teach. Training should address the underlying theory and conceptual framework of the program as well as the content of the guidelines.

◆

Involve parents, families, and members of the community in the district's tobacco use prevention effort. One way to do so is to add them to the local advisory board.

◆

Effective approaches to smoking cessation among young people between the ages of twelve and twenty-two are still under development. Some of the TUPE Promising and Innovative programs available from the California Healthy Kids Program Dissemination Center include promising practices in cessation.

◆

Evaluate and revise the program at regular intervals until it demonstrates positive results.

To develop a comprehensive TUPE program, administrators should first implement the national Principles of Effectiveness (see Chapter 2) and then follow the California Guidelines for Tobacco Prevention that are described fully in this chapter. The CDE's Coordinated Compliance Review requirements (published separately and subject to change) describe only the minimal effort required by CDE policy, not what it takes for an effective program that reduces youth tobacco use.

This chapter addresses district-level planning and needs assessment because they are required by TUPE, but school-level planning is also strongly encouraged so that the program is owned by and relevant to each individual school site.

Following the Guidelines for Tobacco Prevention

The chapter is organized around the California Guidelines for Tobacco Prevention. The following program design elements were derived from a broad reading of the research literature:

1. **Design a program that is comprehensive, responsive to local needs and assets, and based on the national Principles of Effectiveness.**

   – **Make the program comprehensive.** In a major longitudinal study of alcohol, tobacco, and other drug prevention programs, Silvia and Thorne (1997) noted that the more comprehensive a program, the greater the likelihood of success in reducing tobacco and other drug use. A comprehensive TUPE program includes multiple components, such as age-appropriate classroom instruction, skills training for all students with ongoing booster sessions, student assistance programs, student support groups, individual and/or group counseling, staff development, parent education, communitywide involvement, and clear school policies related to tobacco use. These components should target the general student population, pregnant minors, the most at-risk students, and those who use tobacco.

National Principle of Effectiveness: *Base programs on a thorough assessment of objective data about the drug and violence problems in the schools and communities served.*

   – **Use the California Healthy Kids Survey to determine needs and assets.** Districts that receive TUPE competitive grants for grades nine through twelve are required to use the core and tobacco modules of the California Healthy Kids Survey (CHKS) to identify local needs related to tobacco use. Districts that receive grades four through eight entitlement TUPE funds are advised to use the core and tobacco modules of the CHKS for this purpose and to track the extent to which the district's program is meeting its performance indicators. A Healthy Kids Survey module on resilience is also available. Information about the CHKS may be found in Appendix A.

National Principle of Effectiveness: *Establish a set of measurable goals and objectives, and design programs to meet those goals and objectives.*

– **Set measurable goals and objectives.** Once local needs have been identified, measurable goals and objectives should be set to meet these needs. The Consolidated Application requires every district to establish a set of performance indicators that prescribe specific, measurable objectives for tobacco use prevention. Program goals will vary by the target audience addressed. For students who are not yet users of tobacco, the goal should be to prevent tobacco use among young people and secondarily, to delay the onset of tobacco use. Research demonstrates that the earlier students begin to smoke, the more likely they are to become addicted to tobacco over the long run (U.S. Department of Health and Human Services 1994). For students who are already regular smokers or "chewers," the goal should be to support their efforts to quit using tobacco.

  Performance indicators need to be reexamined and reestablished on a regular basis. Each year, schools are confronted with a new cohort of students for which data may show changing prevalence of tobacco use. Prevention efforts must be ongoing and must be tailored to the needs and interests of each new cohort of youngsters.

2. **Establish and enforce a school policy on tobacco use.**

   – **Implement, enforce, and communicate a no-use tobacco policy on school grounds.** A study (Pentz, Dwyer, MacKinnon, Flay, Hansen, Wang, and Johnson 1989) of the impact of school smoking policies on over 4,000 adolescents in 23 schools in California found that schools with a comprehensive policy that emphasized both prevention and cessation had significantly lower smoking rates than did schools with a less comprehensive policy and less emphasis on smoking prevention.

     School districts and county offices of education must be certified as being tobacco free in order to be eligible for TUPE funds. Some prevention coordinators believe that the critical feature of a successful TUPE program is the consistent enforcement of the no-use tobacco policy by school administrators and the provision of consequences for violations of that policy.

3. **Provide developmentally appropriate tobacco use prevention education in kindergarten through grade twelve; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school.**

   – **Provide developmentally appropriate instruction in kindergarten through grade twelve.** Table 3 displays the instructional concepts (knowledge), attitudes, and skills that are appropriate at early and later elementary grades, middle and junior high school, and senior high school (Centers for Disease Control and Prevention 1994). Information in the chart can be used to evaluate whether a published curriculum includes age-appropriate information and involves staff development sessions.

     Although a published curriculum may be developmentally appropriate as shown in Table 3, it may not have been evaluated as being effective in changing students' behaviors in accordance with its objectives.

   – **Focus the most intense instruction and prevention efforts on grades six to nine**, particularly during the transition year from elementary to middle or junior high school when there is typically a big increase in the rates of tobacco use (Centers for Disease Control and Prevention 1994).

TABLE 3

Developmentally Appropriate Instructional Knowledge, Attitudes, and Skills

(Centers for Disease Control and Prevention 1994)

	Early Elementary School	Later Elementary School	Middle/Junior High School	Senior High School
Knowledge: Students will learn that…	• A drug is a chemical that changes how the body works. • All forms of tobacco contain a drug called nicotine. • Tobacco use includes cigarettes and smokeless tobacco. • Tobacco use is harmful to health. • Stopping tobacco use has short-term and long-term benefits. • Many persons who use tobacco have trouble stopping. • Tobacco smoke in the air is dangerous to anyone who breathes it. • Many fires are caused by persons who smoke. • Some advertisements try to persuade persons to use tobacco. • Most young persons and adults do not use tobacco. • Persons who choose to use tobacco are not bad persons.	• Stopping tobacco use has short- and long-term benefits.* • Environmental tobacco smoke is dangerous to health.* • Most young persons and adults do not use tobacco.* • Nicotine, contained in all forms of tobacco, is an addictive drug. • Tobacco use has short-term and long-term physiologic and cosmetic consequences. • Personal feelings, family, peers, and the media influence decisions about tobacco use. • Tobacco advertising is often directed toward young persons. • Young persons can resist pressure to use tobacco. • Laws, rules, and policies regulate the sale and use of tobacco.	• Most young persons and adults do not smoke.* • Laws, rules, and policies regulate the sale and use of tobacco.* • Tobacco manufacturers use various strategies to direct advertisements toward young persons, such as "image" advertising.* • Tobacco use has short- and long-term physiologic, cosmetic, social, and economic consequences.* • Cigarette smoking and smokeless tobacco use have direct health consequences.* • Maintaining a tobacco-free environment has health benefits. • Tobacco use is an unhealthy way to manage stress or weight. • Community organizations have information about tobacco use and can help persons stop using tobacco. • Smoking cessation programs can be successful. • Tobacco contains other harmful substances in addition to nicotine.	• Most young persons and adults do not smoke.* • Tobacco use has short- and long-term physiologic, cosmetic, social, and economic consequences.* • Cigarette smoking and smokeless tobacco use have direct health consequences.* • Community organizations have information about tobacco use and can help persons stop using tobacco.* • Smoking cessation programs can be successful.* • Tobacco use is an unhealthy way to manage stress or weight.* • Tobacco use during pregnancy has harmful effects on the fetus. • Schools and community organizations can promote a smoke-free environment. • Many persons find it hard to stop using tobacco, despite knowledge about the health hazards of tobacco use.

* These concepts reinforce content introduced during earlier grades.

TABLE 3 (CONTINUED)

Developmentally Appropriate Instructional Knowledge, Attitudes, and Skills

(Centers for Disease Control and Prevention 1994)

	Early Elementary School	Later Elementary School	Middle/Junior High School	Senior High School
Attitudes: Students will demonstrate…	• A personal commitment not to use tobacco. • Pride about choosing not to use tobacco.	• A personal commitment not to use tobacco.* • Pride about choosing not to use tobacco.* • Support for others' decisions not to use tobacco. • Responsibility for personal health.	• A personal commitment not to use tobacco.* • Pride about choosing not to use tobacco.* • Responsibility for personal health.* • Support for others' decisions not to use tobacco.* • Confidence in personal ability to resist tobacco use.	• A personal commitment not to use tobacco.* • Pride about choosing not to use tobacco.* • Responsibility for personal health.* • Support for others' decisions not to use tobacco.* • Confidence in personal ability to resist tobacco use.* • Willingness to use school and community resources for information about, and help with, resisting or quitting tobacco use.
Skills: Students will be able to…	• Communicate knowledge and personal attitudes about tobacco use. • Encourage other persons not to use tobacco.	• Communicate knowledge and personal attitudes about tobacco use.* • Encourage other persons not to use tobacco.* • Demonstrate skills to resist tobacco use. • State the benefits of a smoke-free environment. • Develop counter-arguments to tobacco advertisements and other promotional materials. • Support persons who are trying to stop using tobacco.	• Encourage other persons not to use tobacco.* • Support persons who are trying to stop using tobacco.* • Communicate knowledge and personal attitudes about tobacco use.* • Demonstrate skills to resist tobacco use.* • Identify and counter strategies used in tobacco advertisements and other promotional materials.* • Develop methods for coping with tobacco use by parents and with other difficult personal situations, such as peer pressure to use tobacco. • Request a smoke-free environment.	• Encourage other persons not to use tobacco.* • Support persons who are trying to stop using tobacco.* • Communicate knowledge and personal attitudes about tobacco use.* • Demonstrate skills to resist tobacco use.* • Identify and counter strategies used in tobacco advertisements and other promotional materials.* • Develop methods for coping with tobacco use by parents and with other difficult personal situations, such as peer pressure to use tobacco.* • Use school and community resources for information about and help with resisting or quitting tobacco use. • Initiate school and community action to support a smoke-free environment.

* These concepts reinforce content introduced during earlier grades.

- **Reinforce tobacco use prevention education** from the lower grades by providing "booster" sessions in grades ten through twelve. Booster sessions typically include developmentally appropriate classroom instruction that repeats and/or expands on concepts previously introduced. Booster lessons in high school are important for maintaining prevention program successes that were achieved in middle school.
- **Tailor programs** to address the audience's needs, interests, culture, and other relevant characteristics.

4. **Provide instruction about social influences on tobacco use, peer norms regarding tobacco use, refusal skills, and short- and long-term negative physiological and social consequences of tobacco use.**
   - **Learn what is being taught.** As noted in Chapter 2, tobacco use prevention education in California has not always utilized the most effective approaches for influencing students' behavior. The district's TUPE coordinators should make it a priority to find out what is going on in classrooms within the district in order to identify instructional content and teaching strategies that need strengthening.

National Principle of Effectiveness: *Design and implement programs for youths based on research or evaluation that provides evidence that the strategies used prevent or reduce drug use (including tobacco).*

   - **Use and select effective prevention curricula.** A district should not have to develop its own tobacco use prevention curricula when effective programs are already available. Program administrators should focus instead on reviewing the evidence of effectiveness among existing curricula to find the ones that are most appropriate to students in their district. They should select research- and evaluation-based strategies that are developmentally appropriate, affect behavior, and promote youth development. Curricula based on the social influences model have generally been shown to be most effective. Chapter 4 has information on effective programs.
   - **Offer ten or more tobacco-specific sessions each year.** Traditionally, the CDE's Coordinated Compliance Review has required that instruction and reinforcement activities be a minimum of six or more hours per grade level annually in order to meet the needs of students. However, research (e.g., Botvin, Baker, Dusenbury, Botvin, and Filazzola 1993) shows that ten tobacco-specific sessions each year during each of grades six to nine are needed for instructional approaches to be most effective. The Principles of Effectiveness require that the actual number of hours be dictated by the research and faithfully replicate any program design. To be effective, many evaluated curricula specify the need for incorporating booster sessions and the number of hours needed (usually far beyond six) to ensure that instruction effectively changes behavior.

     Students may receive additional instruction through alternatives to the curriculum being used in the classroom. For example, peer education, drama presentations, and presentations by outside speakers at assemblies may supplement instructional strategies.
   - **Adhere to the original plan and design of any selected instructional program.** A substantial number of teachers who adopt recommended programs reinvent them in

one way or another, and this may reduce their effectiveness. All elements should be included, and the actual number of hours specified by the program's research or evaluation should be provided. One of the reasons many programs shown to be effective in a research setting are not effective in actual practice is because the original program is only partially implemented or implemented differently than the design (Centers for Disease Control and Prevention 1994).

– **Evaluate the source of tobacco use prevention materials.** The tobacco industry provides free or low-cost tobacco education materials to schools. Such materials are always professionally produced and attractive, and they contain a superficially positive message. Many of these programs, however, may be deliberately ineffective or may contain hidden messages that promote tobacco use. These materials may be distributed by otherwise reputable organizations. Be sure to read the small print carefully. Questions regarding the source of such materials may be directed to the Healthy Kids Program Office in the California Department of Education or the California Healthy Kids Resource Center (see Appendix A).

Tobacco prevention and cessation materials targeted to various cultural and ethnic groups are available from the Tobacco Education Clearinghouse of California, ETR Associates, P.O. Box 1830, Santa Cruz, CA 95061-1830, (800) 258-9090.

5. **Provide program-specific training for teachers.**

   Teachers should receive training in any program they are expected to teach. Training should address the underlying theory and conceptual framework of the program as well as the content of the guidelines. Teacher training should also include an opportunity to see the program activities modeled by skilled trainers, and teachers should have the opportunity to practice implementing program activities. Studies indicate that in-person training and review of curriculum-specific activities contribute to greater compliance with prescribed program components. One study found that one-to-one on-site intervention by the researcher with school principals increased implementation of a social influences model prevention program in elementary schools (Rohrbach, Graham, and Hansen 1993).

6. **Involve parents, families, and community in support of school-based programs to prevent tobacco use.**

   – **Involve parents and families in tobacco use prevention education activities.** Parents or families can play an important role in providing social and environmental support for tobacco-free lifestyles. They can be involved in program planning, in soliciting community support for programs, and in reinforcing educational messages at home. Homework assignments that involve parents or families can increase the likelihood that tobacco use is discussed at home and motivate adult users of tobacco to consider quitting. Research indicates that parent involvement—through parent orientation sessions, parent-child participation in prevention activities, and/or parent cessation programs—

improved parental knowledge about adolescent tobacco use, contributed to the development of negative attitudes by parents toward tobacco use, and mobilized parents to speak with their children regarding not using tobacco (Center for Substance Abuse Prevention 1997).

– **Establish and work with a broad-based advisory council.** Because tobacco is included in the Safe and Drug-Free Schools and Communities Act, districts are encouraged to use the advisory council established for the district's alcohol, drug, and violence prevention efforts to advise its TUPE program. It is important to invite a representative of the county health department or local lead agency (LLA) who is involved with the public health aspect of California's Tobacco Control Program to participate on the council. Conversely, TUPE coordinators may also attend LLA coalition meetings. A list of county health department representatives may be found in Appendix B. Other participants could be local representatives from the voluntary organizations that have worked for years to combat tobacco use, including the American Lung Association, the American Cancer Society, the American Heart Association, and Americans for Nonsmokers' Rights. Many of the local chapters conduct tobacco control programs with funding from Proposition 99.

– **Implement strategies and coordinate with communitywide prevention efforts.** Community-based strategies to prevent tobacco use are essential to the success of school-based programs. Some studies have shown that classroom-based tobacco use prevention programs, by themselves, have produced only short-term effects (Tobler 1993). The effectiveness of school-based efforts to prevent tobacco use appears to be enhanced by the addition of targeted communitywide programs that address the role of families, community organizations, tobacco-related policies, antitobacco advertising, and other elements of the adolescent's social environment. For example, Tobler (1993) found that embedding an interactive school-based prevention effort within a community-based initiative doubled the impact of the program in reducing ATOD use.

Many communitywide efforts organized by LLA involve creating environmental changes that reduce the availability of or affect attitudes toward tobacco, such as merchant education and no-use policies in public places. These environmental strategies can be combined with tobacco use prevention education targeting the individual to create more powerful antitobacco attitudes and behaviors.

School, district, and county staff can find out about communitywide efforts in their areas by contacting the tobacco control program at the county health department. In addition to activities conducted by local health departments, communitywide programs are also organized by other components of California's Tobacco Control Program, including:

- Regional projects that conduct activities in county clusters: Bay Area, Central Coast, Central Valley, Gold Country, High Country, Los Angeles, North Coast, North Valley, Southern Coast, and Tri-County
- Ethnic networks that conduct culturally relevant tobacco control activities for African-American, American Indian, Asian and Pacific Islander, and Hispanic/Latino populations

- Competitive grants funded by the California Department of Health Services

The county health department and/or LLA can put districts in touch with these programs in their areas.

7. **Support cessation efforts among students and all school staff who use tobacco.**

   Effective approaches to smoking cessation among young people between twelve and twenty-two are still under development. Therefore, these approaches are categorized as promising rather than effective. Cessation efforts may include precessation (cessation education and awareness, readiness for cessation) and cessation. School-site policies should include actions (e.g., mandatory participation in a cessation awareness program) for students who get caught using or possessing tobacco.

   A recent evaluation (Coleman-Wallace, Lee, Montgomery, Blix, and Wang 1999) showed a two-step approach to tobacco use cessation to be effective in decreasing tobacco usage. In this study the Tobacco Education Group (TEG) curriculum was used to motivate tobacco users to want to quit, and the Tobacco Awareness Program (TAP) was used with students who wanted to quit.

   One of the research summaries in Chapter 6 describes the state of the art in youth cessation programs ("Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products," summarized by Luanne Rohrbach on pages 72–74). However, many promising practices exist in this area, including Promising and Innovative programs promoted through the California Healthy Kids Program Dissemination Center (see Chapter 5 for a fuller discussion of cessation). The California Smoker's Helpline provides cessation materials and counseling for youths as well as adults. See Appendix A to learn more about accessing the Helpline and programs from the Healthy Kids Program Dissemination Center.

8. **Promote youth development in caring environments.**

   Youth development focuses prevention programs on fostering resilience in youths, promoting asset building, and ensuring that youths are connected to a caring adult or mentor. The CDE believes these are appropriate strategies for preventing tobacco use.

   Research from the Search Institute (Benson, Leffert, Scales, and Blyth 1998) shows that the more developmental assets an adolescent has, the less likely she or he is to use tobacco. A complete review of the research and recommended program strategies on youth development, resilience, and asset building may be found in the 1999 Update to *Getting Results (Positive Youth Development: Research, Commentary, and Action).* The California Healthy Kids Survey includes a resilience assessment module.

9. **Evaluate and revise the tobacco use prevention program at regular intervals until it demonstrates that it is *getting results*.**

National Principle of Effectiveness:
Evaluate programs periodically to assess progress toward achieving goals and objectives, and use evaluation results to refine, improve, and strengthen the program and to refine goals and objectives, as appropriate.

Evaluate the district's program through surveys of students, staff, and parents. Evaluation can provide valuable information to guide program efforts. It is not enough, however, to measure the extent to which the program has been implemented. The goal is to reduce the prevalence of tobacco use among youths in the district. The evaluators should measure whether the prevalence rate is decreasing.

It is essential to adopt objectives based on realistic student outcomes that measure the extent to which youths use tobacco. Administrators can use the core and tobacco modules of the California Healthy Kids Survey to track the district's progress in achieving its performance indicators for impacting students' tobacco use behaviors.

Operating in the Real World

Combining the program design elements based on the California Guidelines for Tobacco Prevention described above with the selection of effective, research-based strategies outlined in the following chapter will provide the foundation for an effective TUPE program. However, the realities of school priorities, pressures, and politics mean that getting tobacco use prevention to the top of the list for administrators, staff, and students can be very difficult. In planning and modifying a TUPE program, therefore, it is important to be aware of and plan ways to overcome common barriers to implementation.

The barriers include reductions or fluctuation in funding, school restructuring efforts, staff turnover, lack of administrative support or broader schoolwide staff commitment, lack of teacher training, and the lack of specific places in the curriculum to teach tobacco use prevention education. Also, program implementation is often more successful when the program is established throughout the school and community, rather than just in some classrooms.

Student-related barriers include high numbers of students at risk for tobacco use and students who are jaded from overexposure to ineffective programs.

The most difficult barrier to address may be a district's singular focus on academic achievement without regard for the broad array of learning supports needed for young people to benefit from improved reading and mathematics instruction. An important prevention program goal is to help principals and teachers understand that healthier students are better learners.

Finally, effective tobacco use prevention programs develop because of strong and positive relationships among the adults and students in the school and community; however, such relationships can take time to build. One person alone cannot force changes in program implementation and delivery but can strive to create the environment in which many people are motivated to help young people avoid becoming addicted to tobacco.

Summary

In summary, despite the urgent need to prevent tobacco use by young people, the multiple, pressing demands on school staff and administrators may make it difficult to keep tobacco use prevention at the forefront of a school's priorities. Within limited time and resources, however, there are specific, recommended steps a district can follow to create or modify its TUPE program, starting with enforcement of a tobacco-free policy and continuing through evaluation to see whether fewer students are using tobacco or intending to use it. Resources available through the CDE's Healthy Kids Program Office and through local community-based tobacco control programs (described in previous chapters) can supplement a district's efforts.

CHAPTER 4

Using Research-Based Strategies for Tobacco Use Prevention: Effective and Ineffective Practices

THE CHAPTER AT A GLANCE

Comprehensive prevention programs that include school and community components are effective in changing students' behavior regarding tobacco use.

◆

Instructional programs based on the social influences model are most likely to be effective. This prevention approach recognizes the social environment as the most important determinant of smoking onset and focuses on the development of norms and skills to identify and resist social influences to smoke.

◆

Interactive teaching strategies (e.g., role plays, small-group activities, Socratic discussion) commonly associated with social influence curricula have been shown to be most effective. However, the interactive teaching methods that appear to be a critical element of effective programs may be incompatible with the teaching style of many teachers who have not been trained in this approach.

◆

Adding a media component—such as television segments coordinated with classroom curricula, mass media antitobacco advertisements, public service announcements, and radio, TV, and newspaper clips—to a comprehensive tobacco use prevention program can change students' knowledge, attitudes, and beliefs about tobacco use and marketing.

◆

Few programs for preventing use by young people of smokeless tobacco products have been evaluated. Those that have been are only one component of a broader tobacco use prevention curriculum.

◆

Information-only programs, scare tactics, affective education (e.g., self-esteem) programs, one-time events or other presentations that are unconnected to classroom instruction, and programs that focus *only* on the long-term health effects of tobacco use are not effective in preventing tobacco use.

continued

THE CHAPTER AT A GLANCE, CONTINUED

Many curricula are heavily marketed but have not been evaluated, have been evaluated inadequately, or have been shown to be ineffective; therefore, one must examine the evaluation data for any program before adopting it.

◆

Prevention programs that work usually are grounded in theory. In addition to establishing that the program has a theoretical foundation, research or evaluation studies that examine the program's effectiveness should be reviewed to determine whether the program **produced the desired changes in the target population.**

The national Principles of Effectiveness and the recommended California Guidelines for Tobacco Prevention, described in the previous chapters, call for the use of research-based practices. This chapter presents research-based exemplary and ineffective practices for tobacco use prevention and instruction. Chapter 5 contains information about promising practices that should also be considered for inclusion in a comprehensive tobacco use prevention program.

Note that although cessation and cessation awareness should be included in secondary school TUPE programs, research on cessation is included in Chapter 5 because it is still a promising practice—no *exemplary* practices in cessation for adolescent audiences have yet been identified.

Exemplary, promising, and ineffective practices are summarized at a glance in Figure 2 on page 36.

In planning a new TUPE program or modifying an existing one, districts should combine both exemplary and promising approaches in all aspects of their comprehensive efforts. Equally important, districts should carefully determine if any ineffective practices are being used and eliminate them.

New curricula and prevention strategies continually are being evaluated. Because of this, it is highly desirable for educators to review and assess evaluation reports and journal articles. Following the descriptions of current effective and ineffective programs, this chapter gives a brief introduction to understanding prevention research. The research summaries in Chapter 6 also provide examples of how four tobacco use prevention researchers critique and apply research and evaluation reports.

Effective Practices

Comprehensive Programs

- **Comprehensive prevention programs that include school and community components are effective in changing the behavior of students.** Research on tobacco use prevention programs that combine school- and community-based components (e.g., Perry, Kelder, Murray, and Klepp 1992; Pentz, Dwyer, MacKinnon, Flay, Hansen, Wang, and Johnson 1989) shows them to be effective in reducing tobacco use among students. For example, the Minnesota Heart Health Program used an interactive (peer-led) social influences approach in eight junior high schools in addition to other community strategies and channels (e.g., mass media, policy development). At the end of the twelfth grade, students in the intervention had reduced their smoking prevalence by 40 percent (Perry, Kelder, Murray, and Klepp 1992). (This study is summarized in Chapter 6, pages 81–82)
- **The more comprehensive a program, the greater the likelihood of success in reducing the use of tobacco and other drugs.** A major study of alcohol, tobacco, and other drug prevention programs (Silvia and Thorne 1997) showed that the more extensive the program—the greater the number and extent of program components—the greater the benefits for students. Benefits included significantly lower lifetime use of drugs, more antidrug attitudes, and better recognition of the consequences of drug use.

Smoking Prevention Instruction

- **Programs based on the social influences model are most likely to be effective.** This prevention approach recognizes the social environment as the most important determinant of smoking onset and focuses on the development of norms and skills to identify and resist social influences to smoke. Underlying this approach is the assumption that adolescents who smoke may lack specific skills to deal successfully with various social influences that support smoking. Such influences include the misperception that most people smoke, the perceived desirable social image of tobacco use, the appeal of cigarette advertising and promotional activities, and the pervasive effects of sibling and peer tobacco use. These programs include training in resisting social pressures and peer pressures to use tobacco and foster general assertiveness, decision making, and communication skills. These programs also promote healthful, normative expectations and particularly correct the misperception that most adolescents smoke.

  Social influence programs may primarily address *social influences* and focus on correcting students' perceptions of social norms regarding tobacco use, teaching them about social influences to use tobacco, and providing them with resistance skills; or they may focus primarily on *life/social skills,* including the above components, as well as enhancing personal/social skills and providing general social competence skills.

  The effectiveness of the social influences model in preventing and/or delaying the onset of tobacco use has been demonstrated by individual research reports, several comprehensive literature reviews, and four meta-analyses. The difference between treatment and nontreatment groups ranged from 25 to 60 percent in these studies and persisted from one to four years.

Effective Curricula Identified by the Research to Classroom Project

The U.S. Centers for Disease Control and Prevention (CDC) has initiated a project entitled Research to Classroom. Its purpose is to identify curricula that have credible evidence of reducing health-risk behaviors among youth. The Research to Classroom project established the following criteria for selection of tobacco use prevention curricula:

1. The intervention is an educational program that involves a classroom or other group setting.
2. The content addresses tobacco use—either smoked or smokeless—(although it need not be limited to tobacco) and should be consistent (or can be made consistent) with CDC's Guidelines for School Health Programs to Prevent Tobacco Use and Addiction.
3. The study population is school-age youths.
4. The study measures risk behaviors, not just knowledge and attitudes. The results find an association between exposure to the intervention and at least one of the following behavior outcomes:
   - Prevent the initiation of tobacco use.
   - Reduce the prevalence of tobacco use.
   - Increase the percentage of tobacco users who quit using tobacco.
   - Increase the percentage of smokers who report reductions in tobacco use. Tobacco use status can be measured by self-reporting or by biochemical markers.
5. The research design includes an intervention group and a control or comparison group.
6. The research design includes a follow-up measure conducted at least four weeks after the intervention.
7. A report of the study has been published in a peer-reviewed journal, or one has been submitted for publication in a peer-reviewed journal at the time of consideration and accepted prior to final selection.

To date, two curricula have been identified by CDC as meeting these criteria for effectiveness: *Life Skills Training* and *Project Towards No Tobacco Use* (Project TNT). Summaries of research about these two programs may be found in Chapter 6 ("A psychosocial approach to smoking prevention for urban black youth" discusses Life Skills Training; "Project Towards No Tobacco Use: One-year behavioral outcomes" and "Two-year behavioral outcomes of Project Towards No Tobacco Use" discuss Project TNT). Copies of these curricula may be borrowed for up to one month from the California Healthy Kids Resource Center (CHKRC). The CHKRC web site provides publishers' information about these and other curricula, along with available information about training opportunities.

- **Comprehensive, multicomponent programs yield the most positive outcomes.** Substantial evaluation information is available to show that school-based substance abuse prevention programs that have multiple components (for example, instruction that includes information, decision making, and resistance skills training; a combination of instruction, student activism, and telephone booster sessions) are effective in changing the use of tobacco by students. The two curricula identified by CDC as being effective (described in the box above) have multiple components.

See Chapter 6 of *Getting Results,* Part I, *California Action Guide to Creating Safe and Drug-Free Schools and Communities* for further discussions of the social influences model. Examples of curricula that are based on social influences are Life Skills Training, Project ALERT, Project SHOUT, Project Towards No Tobacco Use (TNT), and Project TAPP. Evaluations of these curricula are summarized in Chapter 6.

- **Interactive teaching strategies are more effective than noninteractive strategies.** Research (Tobler 1993) shows that interactive teaching strategies (e.g., role plays, small-group activities, Socratic discussion) commonly associated with social influence curricula have been shown to be most effective. However, the interactive teaching methods that appear to be a critical element of effective programs (e.g., social influence programs) may be incompatible with the teaching style of many teachers who have not been trained in this approach. In fact, the instructional process characteristics may be more important than the informational content in determining the effectiveness of a prevention curriculum, according to Tobler.
- **Peer-led programs can be a valuable adjunct to teacher-led instruction.** The Institute of Medicine (1994) reports that a peer-led social influences intervention reduces the incidence of daily and weekly smoking 35 to 50 percent more than does an adult-led program that emphasizes health consequences. Peers can model social skills and lead role plays. These students must be trained to ensure accurate presentation of skills and information.
- **Adding a media component to a comprehensive tobacco use prevention program can change students' knowledge, attitudes, and beliefs about tobacco use and marketing.** Multicomponent prevention programs that include media-based interventions—such as television segments coordinated with classroom curricula, mass media antitobacco advertisements, public service announcements, and radio, TV, and newspaper clips—are somewhat effective in preventing tobacco use by students (Center for Substance Abuse Prevention 1997). Many of the television ads produced by the California Tobacco Control Program are appropriate for use in schools. They are available from local health departments; see Appendix B for contact information.

Smokeless Tobacco Prevention Instruction

Few programs for preventing adolescent use of smokeless tobacco products have been evaluated for either short- or long-term effectiveness. Those that have been evaluated are only one component of a broader tobacco use prevention program. Some of these studies have shown positive results. For example, a multicomponent social influence intervention program consisting of seven class periods delivered by classroom teachers and peer leaders to middle school and high school students, which included both media and parent involvement components, resulted in less of an increase in the use of smokeless tobacco by middle school boys and a reduction in smokeless tobacco use by high school boys one year later. An evaluation of Project Towards No Tobacco Use (TNT) (see a summary of research about this program in Chapter 6) indicated a reduction of smokeless tobacco use and experimentation in middle school students.

Ineffective Practices

There are several practices that research has shown consistently to be ineffective in changing tobacco use behavior. These are:

- Information-only programs
- Scare tactics
- Affective education (e.g., self-esteem) programs alone
- One-time events or other presentations that are unconnected to classroom instruction
- Programs that focus only on the long-term health effects of tobacco use
- Mass-media-only approaches
- Tobacco-industry-sponsored programs

Effective curricula may also be ineffective if they are taught piecemeal or in other ways that were not intended by the curriculum's developer.

FIGURE 2

What Works and Does Not Work in Tobacco Use Prevention Education

EXEMPLARY PRACTICES	PROMISING PRACTICES[6]	INEFFECTIVE PRACTICES
Comprehensive programs, including multiple components involving classroom, school, parents, health departments, and other community-based tobacco control activities	Cessation services	Information-only programs
School-based programs that include multiple components	Coordinated school health program	Scare tactics
Instructional programs based on the social influences model. These programs primarily address: • Social influences or • Life/social skills	Curriculum infusion	Affective education programs alone
	Media literacy	One-time events or presentations that are unconnected to classroom instruction
Curricula that meet CDC's criteria for effectiveness are Life Skills Training and Project Towards No Tobacco Use (TNT)	Service-learning	Programs that focus only on long-term health effects of tobacco use
Interactive teaching strategies	Student activism	Mass-media-only approaches
Peer-led programs as adjuncts to teacher-led instruction	TUPE Promising and Innovative Programs	Tobacco-industry-sponsored programs
Media components added to a comprehensive program		

[6] Promising practices are described fully in Chapter 5.

Understanding Prevention Research

This section is a basic primer on understanding prevention research to facilitate districts' review of emerging research and evaluation studies. The summaries in Chapter 6 are examples of how several researchers review research and evaluation.

Prevention programs that work are usually grounded in theory. Theories explain behavior by telling us about what, why, when, and how certain behaviors happen and, therefore, why certain programs should work.

- The *what* identifies the targets of the intervention.
- The *why* identifies the processes by which changes should occur in the target variables.
- The *when* specifies the timing and sequencing of interventions in order to achieve maximum effect.
- The *how* describes the methods to be used in the intervention.

Therefore, in examining a specific prevention program, it is important to determine whether the program is *based on a particular theory that is accepted by experts in the field* and whether the theory provides a *logical explanation* of why the program would work.

In addition to establishing that the program has a theoretical foundation, research or evaluation studies that examine the program's effectiveness should be reviewed to determine whether the program *produced the desired changes in the target population.*

Thousands of research and evaluation studies are published in academic journals every year. Articles in *peer-reviewed* or *refereed* journals are those in which the greatest trust can be placed

FIGURE 3

Useful Research and Evaluation Definitions

Theory: A set of interrelated propositions containing concepts that describe, explain, predict, or control behavior (Glanz, Lewis, and Rimer 1990, p. 20).

Scientific research: Systematic, controlled, empirical, and critical investigation of hypothetical propositions about the presumed relations among natural phenomena (Kerlinger 1973, p. 11).

Evaluation: A way to measure the effects of a program against the goals it set out to accomplish, as a means of contributing to subsequent decision making about the program and improving future programming (Weiss 1972).

Experimental design: Research that compares a group of randomly selected subjects who receive the treatment (the experimental group) with a group of comparable subjects who do not (the control group) (Wright 1979).

Process evaluation: Any combination of measurements obtained during the implementation of program activities to control, ensure, or improve the quality of performance or delivery (Green and Lewis 1986, p. 364).

Quasi-experimental design: Research where experimental and control groups are not randomly assigned or when the intervention has already taken place (Wright 1979).

Summative evaluation: Any combination of measurements and judgments that permit conclusions to be drawn about the impact, outcomes, or benefits of a program or methods (Green and Lewis 1986, p. 366).

Meta-analysis: A study in which the empirical findings from many summative evaluations are standardized in a way that permits a single summative evaluation of their collective results. This process allows the measures of change or differences between groups to be standardized by controlling for sample size and standard deviation of the changes. In this way, conclusions about the size of effects across many studies can be estimated (Green and Lewis 1986).

because a panel of other researchers must read each article and approve the science on which it is based before it can be published. Many journals indicate whether or not they are peer-reviewed or refereed on the title page or in the instructions to authors. The source of the study must be considered. Was it conducted by *reputable researchers in a reputable institution*? Figure 3 provides some definitions that are useful in reviewing research and evaluation studies.

Research and evaluation studies in which the greatest confidence can be placed are those with a rigorous evaluation design. A *rigorous evaluation design* is experimental, comparing treatment and control groups and including random assignment (students or classes are assigned to be part of the research on a random basis rather than in accordance with any individual attributes or qualities). The strongest of these designs will show that the program has a demonstrated effect at multiple sites or uses a carefully controlled, quasi-experimental design (comparison between treatment and control groups that have not been randomly assigned) that has been replicated in more than one study.

FIGURE 4

Checklist for Determining a Program's Effectiveness

YES	NO	CRITERIA
		The program is based on theory that is accepted by experts in the field.
		The theory provides a logical explanation of why the program should work.
		The program produced the desired changes in the target population.
		The research was conducted by reputable researchers and published in a reputable journal (preferably a peer-reviewed or refereed journal).
		The study used a rigorous evaluation design.
		The study shows few negative effects.
		The study was replicated at more than one site.
		The program was implemented by school staff in the study.
		The students were similar to students in our district—socially, ethnically, and culturally.
		The program appears to be cost-effective.
		The program addresses a perceived, pressing need in the district.
		The program is a logical piece of the districtwide, comprehensive effort.

When the intervention (the program or curriculum, for example) has been studied in multiple settings, *there should be no study that shows negative effects (i.e., an increase in smoking rather than a decrease), including unanticipated negative effects.* In addition, the intervention should have been implemented by school staff rather than by the researchers themselves, and it should appear to be cost-effective.

The evaluation criteria described above are very demanding and make the evaluation process very expensive. There are few programs that meet all the criteria. Many such programs have merit nonetheless. Therefore, it is important to be flexible in judging evaluation studies and to consider how well the program is likely to meet the needs of a particular group of students.

The checklist in Figure 4 is one guide to help districts review the research evidence of effectiveness of a prevention program or strategy; however, *it should not be interpreted as a hard-and-fast set of rules.* For example, bear in mind that very few research programs are implemented by school staff alone, very few studies actually get replicated, and the rigor of evaluation design is subject to several variables.

Summaries of key research studies that describe effective, ineffective, and promising practices in tobacco use prevention and cessation are presented in Chapter 6. The science of prevention research is a continually evolving field, so it is important to stay abreast of new studies in the field. See the appendixes for publications and resources that can help.

Summary

Numerous exemplary research-based strategies and programs are available to districts for changing tobacco use prevalence among youths; however, several approaches are not recommended because research shows them to be ineffective in changing behavior. Many other strategies have great promise in impacting tobacco use, but they have not been evaluated or replicated sufficiently to be called exemplary. These promising practices are described in the next chapter. Districts also are encouraged to understand how to critique and apply emerging prevention research and evaluation in the context of their particular school and community in order to continually upgrade their prevention programs.

CHAPTER 5

Using Promising Practices in Tobacco Use Prevention

THE CHAPTER AT A GLANCE

Promising practices can play an important role in a comprehensive tobacco use prevention program. In this *Action Guide,* a promising practice is one that shows promise for reducing tobacco use or for increasing protective factors against tobacco use. Promising practices still need further evaluation before they are termed effective or exemplary.

◆

Promising practices in tobacco use prevention education include cessation services, coordinated school health programs, curriculum infusion, media literacy, service-learning, and student activism.

◆

Fourteen programs have been developed in California's school districts with TUPE funds granted under the "Promising and Innovative Programs" funding category. These programs are listed in Table 4. They currently have insufficient evaluation to prove their effectiveness, yet each contains elements of effective practice. These and future programs are, or will be, disseminated by the California Healthy Kids Program Dissemination Center.

◆

When considering a promising practice, the principles for selection and implementation remain the same as for programs that have been shown to be effective (the program should address a need in the school and be relevant to the school's student population).

◆

Administrators and staff must make a commitment to the duration, integrity, and intent of the program; they should not pick and choose components.

◆

The program should be a logical piece of a districtwide, comprehensive effort.

This chapter describes some promising practices that could be included in a comprehensive, integrated approach to tobacco use prevention. These practices may not yet have been evaluated or may not be easily evaluated. They do, however, incorporate elements of effective practices that were described in Chapter 4. Promising practices include cessation services, coordinated school health program, curriculum infusion, media literacy, service-learning strategies, and student activism. Many of the promising practices described in Part I of *Getting Results* may also be useful in a tobacco use prevention program.

When a district considers including promising practices in its tobacco use prevention program, the principles for selection and implementation remain the same as for programs that have been shown to be effective:

- Consider the pragmatics of a given program:
  - Does it address a perceived, pressing need in the school?
  - Is it relevant to the school's student population socially, culturally, and ethnically?
- Make a commitment to the duration, integrity, and intent of the program; do not pick and choose components.
- Ensure that the program is a logical piece of a districtwide, comprehensive effort.

Cessation Services

Cessation services are directed toward young people who have begun using tobacco. Precessation intervention, either one-to-one or small groups for students who smoke or chew tobacco but are not ready to quit, may be indicated for this age group. Overall, researchers report that the quality of research into tobacco use prevention among students exceeds that of research into cessation studies. The cessation studies available today do not conclusively determine which cessation strategies work best for adolescents.

Research-Based Evidence of Effectiveness

Effective approaches to smoking cessation among young people between the ages of twelve and twenty-two are still under development. There does not appear, at present, to be wide agreement on a single theoretical perspective to guide the development of cessation programs for this audience.

Sussman and his colleagues (1999) conducted an analysis of 17 studies of adolescent cessation programs that represented nearly all studies published between 1975 and 1997. Ten single-group studies were included along with seven that involved more complex evaluation designs. This review constitutes the most comprehensive analysis of adolescent cessation studies conducted to date and is summarized in Chapter 6.

Twelve of the 17 studies addressed cigarette smoking only, four addressed smokeless tobacco use only, and one addressed both cigarette smoking and smokeless tobacco use.

Twelve of the 17 programs were conducted in school clinics, two in a clinic outside of school, and three in nonclinic settings. Of the latter group, one was conducted by medical staff, one had the use of computers, and one was delivered in a classroom.

The results suggest that tobacco cessation programs for adolescents appear to produce greater quit rates than would occur naturally. Those programs that were most successful, having achieved at least 12 percent quit rates at follow-up, were more likely than the others to focus on immediate consequences (in the realms of affect or values, physical aspects, and social aspects) and instruction in coping skills. One of the studies (Perry, Kelder, Murray, and Klepp 1992) combined prevention and cessation in a high school program and achieved a difference between control and program reduction rates of 9.8 percent.

Coordinated School Health Program

A coordinated school health program is better known within California as a "comprehensive school health system." The *Health Framework for California Public Schools* introduces eight components of a comprehensive school health system:

- Health education
- Physical education
- Health services
- Nutrition services
- Psychological and counseling services
- Health promotion for school staff
- Safe and healthy school environment
- Parent and community involvement

The term *coordinated school health program* is preferred to *comprehensive school health system* because the term *coordinated* describes a model of eight complementary and integrated components, as opposed to eight independent elements. Because this is a system, what happens in one component affects the others. For example, health education in the classroom is reinforced by a district's policies that support tobacco-free schools, which in turn support opportunities to participate in a tobacco cessation activity. Further, implementing a coordinated school health program can contribute toward the development of a positive school climate and promote student attachment to the school.

Research-Based Evidence of Effectiveness

No full-scale evaluation of a complete, coordinated school health program has been undertaken because of cost and other constraints. Therefore, it is not possible to say, without equivocation, that a coordinated school health program can reduce the prevalence of tobacco use. However, individual components have been shown to be effective. Therefore, it appears reasonable to assume that implementing a complete and coordinated program would enhance the likelihood of success. Silvia and Thorne (1997) noted that the more comprehensive a program, the greater the likelihood of success in reducing the use of drugs, alcohol, and tobacco.

For More Information:

School Health Connections Office
California Department of Education
721 Capitol Mall, Third Floor
Sacramento, CA 95814
916-657-3450
916-657-5149 fax
http://goldmine.cde.ca.gov/cyfsbranch/lsp/health/CompHealth.html

School Health Connections Office
California Department of Health Services
714 P Street, Room 750
Sacramento, CA 95814
(916) 653-7746
(916) 653-2781

California Healthy Kids Resource Center
Alameda County Office of Education
313 West Winton Avenue, Room 180
Hayward, CA 94544
(510) 670-4581
(510) 670-4582 fax
http://www.hkresources.org

Health Framework for California Public Schools, Kindergarten Through Grade Twelve may be ordered from the CDE Press, Sales Office, P.O. Box 271, Sacramento, CA 95812-0271, 800-995-4099; 916-445-1260.

Curriculum Infusion

Curriculum integration, or infusion, is the teaching of tobacco use prevention information in the context of core curriculum subjects, such as language arts, mathematics, and social studies. Curriculum infusion should supplement an existing tobacco-specific curriculum. *If it is used alone,* this strategy is unlikely to produce a powerful reduction in the onset of tobacco use among youths.

Research-Based Evidence of Effectiveness:

Although infusion is a promising practice, no research about, nor evaluation of, tobacco-related curriculum infusion materials has been identified in a review of the published literature.

For More Information:

Sacramento County Office of Education
Prevention and Student Services
9738 Lincoln Village Drive
Sacramento, CA 95827

Tobacco-Free! is a collection of tobacco use prevention lessons for infusion into English/-language arts, health education, history/social studies, mathematics, performing arts, and science. The materials were developed with California tobacco tax funds. Materials currently are available for middle school and high school; elementary materials are under development.

Media Literacy

"Media literacy is concerned with helping students develop an informed and critical understanding of the nature of the mass media, the techniques used by them, and the impact of these techniques. More specifically, it is education that aims to increase students' understanding and enjoyment of how the media work, how they produce meaning, how they are organized, and how they construct reality. Media literacy also aims to provide students with the ability to create media products." (*Resource Guide: Media Literacy*, Ontario Ministry of Education 1989, pages 6–7)

The tobacco industry pours $1 million per day into California in advertising. One study (Pierce, Choi, Gilpin, Faskas, and Berry 1998) estimated that one-third of all smoking by youths could be related to advertising and promotional activities of the tobacco industry. Therefore, teaching students how to critically evaluate media messages can be an important part of a tobacco use prevention program. Students should understand how the tobacco industry constructs media messages specifically to promote tobacco use among young people. Instruction in media literacy can provide students with the media savvy to construct their own antitobacco use messages as part of peer-to-peer strategies that are based on research.

Research-Based Evidence of Effectiveness

No studies have been identified that specifically examined the impact of instruction in media literacy on tobacco use. In fact, only one study (Austin and Johnson 1997) to date has specifically examined the impact of media literacy training on the use of any substance. Austin and Johnson compared an in-school generalized media literacy lesson (not specific to alcohol) consisting of a video followed by a class discussion and pledge to "always be critical of television" with one that specifically included ads for alcohol. Students in the studies were third graders. Both the general and alcohol-specific lessons led to decreased expectations of positive consequences from drinking alcohol and decreased likelihood to choose an alcohol-related product.

Despite the lack of tobacco-specific studies, it makes sense that media literacy studies should be included as one component of a comprehensive tobacco use prevention program because of the potent influence that tobacco advertising has on smoking by adolescents.

For More Information:

The Media Literacy Online Project
College of Education
University of Oregon
Eugene, OR 97403
(541) 346-3460
http://interact.uoregon.edu/MediaLit/HomePage

Media Literacy Clearinghouse
(Tobacco Advertising Lessons from various sources)
http://www.media-awareness.ca/eng/med/class/teamedia/tobacade.htm

Center for Media Literacy
4727 Wilshire Blvd., Suite 403
Los Angeles, CA 90010
(800) 226-9494
http://www.medialit.org

Scott Newman Center
http://www.scottnewmancenter.org

Just Think Foundation
http://www.justthink.org

Youth Media Network
17872 Moro Road
Prunedale, CA 93907
(831) 663-9208
(800) 733-8377
(831) 663-1328 fax
ymedia@ix.netcom.com
http://www.ymn.org

Youth Media Network is funded by Proposition 99, the Tobacco Tax Initiative. It is an interactive Internet site where young people can communicate about tobacco-related issues and practice both media literacy and media advocacy. An interactive tobacco education curriculum is available for use with the web site.

Service-Learning

Service-learning, one of the authorized activities under Title IV, is a teaching method that integrates community service into the school curriculum. Service-learning engages young people in community activities using academic skills to solve real-life problems. At the same time, program activities help students understand the meaning of citizenship and their ability to determine the quality of life in their communities.

A high school district in the Bay Area offers multiple service-learning opportunities related to tobacco use prevention. For example, some students participate in an Antitobacco Media Blitz, an after-school program where they develop antitobacco ads, audio-*novelas,* and public service announcements for the local public television station. Others, working with the district's TUPE coordinator, received training in tobacco use prevention education and then designed and implemented an antitobacco, game-show-style curriculum for their peers. Still others participated in a merchant education program in which they bought cigarettes from local stores, then wrote a letter to the store owners reporting this violation and expressing their outrage that it was allowed to happen. All of these students connected these service activities back to their life service health course.

Research-Based Evidence of Effectiveness

An evaluation conducted by RPP International (Weiler, LaGoy, Crane, and Rovner 1998) of CalServe kindergarten through grade twelve partnerships in California schools identified the characteristics of participating schools that contribute to positive youth development. For example, at schools where service-learning was well designed and well implemented, overall school climate improved by helping students feel more connected to their schools and increased the students' sense of their educational competence and educational aspirations. This study did not specifically include use of alcohol, tobacco, or other drugs as outcome measures.

For More Information:

CalServe K-12 Service-Learning Initiative Office
(916) 654-3741
(916) 657-4969 fax
http://goldmine.cde.ca.gov/cyfsbranch/lsp/cshome.htm

Through the CalServe Initiative, the California Department of Education (CDE) provides direct funding assistance to 36 school-community partnerships that are implementing service-learning districtwide in urban, suburban, and rural, areas. These partnerships involve an average of 70,000 students annually, along with 4,450 community volunteers and agencies in 385 schools in 133 districts in urban, rural and suburban communities throughout the state. Additionally, the CalServe Initiative provides resource information to schools, districts, community partners, and county offices of education interested in using service-learning as a teaching strategy through the county-based Regional Service-Learning Lead program. Visit the CalServe web site for more information on CalServe Partnerships and the Regional Service-Learning Lead near you.

The National Service-Learning Clearinghouse
(800) 808-SERVE
email: serve@maroon.tc.umn.edu
gopher: gopher.nicsl.coled.umn.edu (Port 70)

The National Youth Leadership Council, collaborating with the University of Minnesota, is cooperating with numerous other universities and organizations around the country to develop a clearinghouse for information and technical assistance on service-learning programs. Funded by the Commission on National and Community Service, the goal of the clearinghouse is to assist Learn and Serve America grantees and to help educators and community agencies develop and expand service-learning opportunities for all youths. These services include providing information on:

- Databases dealing with youth service, youth development, at-risk youths, dropout prevention, youth employment, and related topics
- The Learn and Serve America program
- Organizations engaged in promoting service-learning activities and community service
- Service-learning programs around the country
- National calendar of conferences and training opportunities related to service-learning programs

The Clearinghouse will also provide:

- Bibliographies and literature on service-learning programs
- Names and phone numbers of people who can provide technical assistance on all aspects of service-learning activities
- Access to computer networks and databases to provide information on various topics related to service-learning opportunities and youth service

Student Activism

Student antitobacco activism is participation in planned antitobacco activities that are designed to raise awareness, educate, or prompt social change. Examples of student antitobacco activism include conducting surveys related to tobacco promotion, sales, or advertising; utilizing survey findings to advocate a change such as banning tobacco ads in stores; writing letters to the editor; making presentations to city councils; participating in media-based projects, and so on.

Research-Based Evidence of Effectiveness

Some research evidence suggests that anti-tobacco activism is effective in improving adolescents' knowledge about tobacco and promoting negative attitudes toward tobacco use. There is suggestive but insufficient evidence that youth participation in antitobacco activism prevents adolescent tobacco use because few studies have assessed this outcome. See the summary of Project SHOUT in Chapter 6 for a discussion of a research-based tobacco activism program.

For More Information:

National Education Association Health Information Network
1201 Sixteenth Street N.W., Suite 521
Washington, DC 20036-3290
(800) 718-8387
www.nea.org/hin

The NEA has developed *KidsAct!* (Kids Act to Control Tobacco), a guide to tobacco control advocacy activities for middle school students.

American Cancer Society
(Check telephone directory for local unit.)

Telling Fact from Fiction is a student antitobacco advocacy kit for young people from eight to eighteen years of age, appropriate for use in schools and community settings. It is available at no cost.

American Lung Association
(Check telephone directory for local chapter.)

The American Lung Association is the lead agency among the three voluntaries participating in the SmokeFree Generation 2000 initiative.

American Nonsmokers' Rights Foundation
2530 San Pablo Avenue, Suite J
Berkeley, CA 94702
(510) 841-3032
http://www.no-smoke.org

How to Butt In: Teens Take Action Guidebook addresses how young people can use social action to combat the tobacco industry and its influence.

TUPE Promising and Innovative Programs

In addition to the promising practices that have been described, there are 16 programs developed in California school districts with TUPE funds granted under the "Promising and Innovative Programs" funding category. These programs are displayed in Table 4.

These Promising and Innovative programs are, or will be, disseminated by the California Healthy Kids Program Dissemination Center at the Los Angeles County Office of Education. (See Appendix A for contact information.) The Program Dissemination Center will display a description of each program on its web site. These Promising and Innovative programs have been insufficiently evaluated to prove their effectiveness, yet each contains elements of effective practice as described in chapters 3 and 4. Further, many of the developers of these programs report anecdotal evidence of effectiveness. An evaluation of several Promising and Innovative programs is currently under way, and results will be available by fall, 2000.

TABLE 4

TUPE Promising and Innovative Programs Selected for Dissemination

PROGRAM	TARGET AUDIENCE	FOCUS
Antitobacco Media Blitz	High school students	Prevention
"The Basement Bums" Adventures in Life Skills (Middle Schools)	Grades six through eight	Prevention
Medicine Wheel Project	Grades four through twelve	Prevention, cultural appropriateness
The Missing Link in Prevention Education (Personal/Social Skills Lessons)	Middle and high school students	Prevention
"No Ifs, Ands, or Butts"	Middle and high school students	Prevention, intervention, cessation
Peer Advocates for Tobacco-Free Youth (PATFY)	Middle school students	Prevention, peer education
Project A•B•C•D. (Analyze, Beware, Create, Disseminate)	Grades seven through eight	Prevention
Project ALIVE! (Arts Leading into Vital Education)	Middle and high school students	Prevention, peer-to-peer strategies
Project LIFE (Look into Future Effects)	High school students in continuation high schools	Prevention, intervention, cessation
Project SCAT (Schools and Community Against Tobacco)	Grades four through twelve	Prevention
Smokeless School Days	Middle and high school students	Intervention, cessation
Tobacco-Free Generations, Well into the Future	Pregnant and parenting teens, grades seven through twelve	Prevention
Traditional Uses of Tobacco (TUT)	Indian youths in middle and high school and their families	Prevention, cultural appropriateness
Triple T (Teens Tackle Tobacco) Project	Upper elementary, middle, and high school students	Prevention

Summary

Promising practices should be included in a comprehensive TUPE program. They should be selected in the same manner as are effective practices or programs: with regard to the district's and community's demographics and to meet particular needs that have been identified.

CHAPTER 6

Summaries of Research and Evaluation Studies on Tobacco Use Prevention

THE CHAPTER AT A GLANCE

This chapter presents summaries of key research and evaluation studies on tobacco use prevention, selected by four leading research experts in the prevention of tobacco use by youths, to inform our understanding of what works and what does not work in tobacco use prevention education.

◆

The chapter should, therefore, *not* be read as containing summaries of effective programs.

◆

Research-based knowledge of tobacco use prevention education is strongest in the area of the effectiveness of curricula. The research does provide important information for guiding program decisions but does not answer all program questions.

◆

No single summary describes the comprehensive approach needed for an effective prevention program. Taken together, however, the summaries provide examples of effective classroom, school, and community components that can be combined.

◆

All research-based literature should be reviewed carefully to ensure that the findings are relevant to the students that an individual district serves.

Four leading research experts were asked to select what they considered to be the most important studies for educators to know *concerning what works and what does not work in tobacco use prevention.* Each researcher wrote a summary of his or her nominated study, describing why the research was intrinsically important, what its limitations were, and why schools should be interested in it. This chapter contains the summaries provided by the experts.

Because the studies were nominated by the research experts, summaries of certain prevention programs may not be included in this chapter. For example, although *Here's Looking at You 2000* is a widely used curriculum, it was not selected as a key nomination.

The prevention programs and approaches described here are diverse and include classroom curriculum and school-based, school-community, and community-based strategies. Although some studies are several years old, they are seminal to the prevention research literature. The older studies establish our understanding of what it takes to prevent tobacco use.

Most *but not all* of the programs and strategies described here have been successful. The chapter should, therefore, not be read as a collection of effective programs and approaches. However, the summaries will give useful information about what might succeed in a particular school district, school, or classroom. A review of the summaries will provide an understanding of current thinking in tobacco use prevention education. Further, the summaries offer insights into how prevention research might be critiqued. (See also Chapter 4 for an introduction to understanding prevention research.)

Some of the articles contained in this chapter were also reviewed in Chapter 6 of *Getting Results,* Part I, *The California Action Guide to Creating Safe and Drug-Free Schools and Communities.* Reading more than one summary of the same article can reveal new insights into how researchers read and critique research studies.

Because research is a continually evolving field, new studies appear every month. As new studies are published, they can be reviewed and filed in this section so that the district can maintain its own collection of research on what works and does not work in guiding the district's tobacco use prevention education (TUPE) program.

The Researchers

The researchers who selected and summarized the studies included in this chapter have published extensively in prevention evaluation and research, health-related curricula, tobacco prevention education, and cancer prevention:

Carol D'Onofrio, Independent Consultant
Professor Emerita, University of California, Berkeley

Carol D'Onofrio twice chaired the Special Emphasis Panel appointed by the National Cancer Institute to review applications for its initiative Prevention and Cessation of Tobacco Use Among Youth. Her current research includes a three-year intervention to keep infants smoke-free (University of California's Tobacco-Related Disease Research Program); a study of breast cancer in young women (National Cancer Institute); a study of breast-health access for women with disabilities (University of California Breast Cancer Research); and an

evaluation of a program to improve end-of-life care (Robert Wood Johnson Foundation). She consults with numerous agencies nationally and in California, most recently with California Smoke-Free Cities; the Solano County Tobacco Prevention and Education Program; the National Hospice Work Group; and ETR Associates.

John Elder
San Diego State University

John Elder is Professor of Health Promotion in the Graduate School of Public Health, San Diego State University. He was the Principal Investigator for Project SHOUT, a youth tobacco prevention intervention funded by the National Cancer Institute. Among his current and recent research topics are cancer risk in migrant Hispanic adolescents (National Cancer Institute); minority intervention for K–12 high school teachers (National Cancer Institute); and tobacco prevention for hard-to-reach youths (University of California's Tobacco-Related Disease Research Program). Dr. Elder was also Principal Investigator in the independent evaluation of the California Tobacco Control Program from 1990 to 1995.

Luanne Rohrbach
University of Southern California, Los Angeles

Luanne Rohrbach is Research Assistant Professor and Director of Graduate Studies, Department of Preventive Medicine, Division of Health Behavior Research, University of Southern California. She is also a member of the Healthy Kids Survey Advisory Committee for the California Department of Education. Her current research focuses on the independent evaluation of the California Tobacco Control Program; gender differences in antecedents to adolescent substance use; and risk and protective factors for HIV in young women. She is also a consultant to RAND, developing curriculum and measures for the ALERT PLUS booster program; and to the Research Triangle Institute, working on the measurement design for a national survey of school-based drug abuse education.

Steve Sussman
University of Southern California, Los Angeles

Steve Sussman is Associate Professor of Preventive Medicine, School of Medicine, and a researcher at the Institute for Health Promotion and Disease Prevention Research, University of Southern California. His current research centers on the prevention of drug abuse in high-risk youths and young adults and on the onset, prevention, and cessation of cigarette smoking and the use of smokeless tobacco as a function of mass media, school-based, or worksite-based interventions. Dr. Sussman also participates in research on empirical program development. He was Principal Investigator for the Project Towards No Tobacco Use (Project TNT), funded by the National Cancer Institute, and is Principal Investigator for the Project Towards No Drug Abuse (Project TND), funded by the National Institute on Drug Abuse. He is the lead author of *Developing School-based Tobacco Use Prevention and Cessation Programs* (Thousand Oaks, Calif.: Sage Publications, 1995).

Chapter Contents

The articles summarized in this chapter are categorized according to program type: classroom curriculum, school-based prevention, cessation, school-community prevention, community-based prevention, and policy development. Within each category the studies appear alphabetically by title. In some cases a single summary refers to more than one article. In that case the title of the first article has determined the order in which the article appears.

Table 5 lists the title of each article, describes the research, and—for program evaluations—provides a statement of the extent of program effects (i.e., how much of a difference the program made). The importance of the study to educators is presented, and the page number of the study is listed in the last column.

TABLE 5

Research and Evaluation Studies
Classroom Curriculum

TITLE OF ARTICLE	DESCRIPTION	PROGRAM EFFECTS	IMPORTANCE	PAGE
Drug prevention in junior high: A multisite longitudinal test (Ellickson, Bell) Do drug prevention effects persist into high school? How Project ALERT did with ninth graders (Bell, Ellickson, Harrison) Preventing adolescent drug use: Long-term results of a junior high program (Ellickson, Bell, McGuigan)	Evaluation of Project ALERT, an interactive social influences tobacco and other drug use prevention program for grades 7–8	Weekly smoking declined by one-third to one-half among baseline experimental smokers. But use increased by 20-30% among baseline smokers (daily, weekly, and monthly).	Excellent example of a social-influences-based curriculum that could be part of a comprehensive prevention strategy	59
Evaluation of a tobacco and alcohol abuse prevention curriculum for adolescents (Hansen, Malotte, Fielding)	Evaluation of Project TAPP (Tobacco and Alcohol Prevention Program), a social influence curriculum for grades 6–7	Mixed results, with one cohort showing a 40% reduction in smoking prevalence and one cohort showing no effect. Greatest effects were evident among whites and females.	Program showing positive effects when evaluated under real-world conditions	60
Preventing the use of smokeless tobacco and cigarettes by teens: Results of a classroom intervention (Severson et al.)	Evaluation of the inclusion of smokeless tobacco into Project PATH, a smoking prevention program	Program resulted in modest impact on smokeless tobacco use and no impact on cigarette use.	Discusses research-based reasons for why a reasonable approach to addressing smokeless tobacco use may not yield expected results	62
Project Towards No Tobacco Use: One-year behavioral outcomes (Sussman et al.) Two-year behavior outcomes of Project Towards No Tobacco Use (Dent et al.)	Evaluation of a multicomponent social influences prevention and cessation program for grades 7–8	Four percent of students exposed to a multicomponent tobacco prevention program smoked weekly at two-year follow-up compared to 9% of those in the control group. Weekly smokeless tobacco use declined by less than 1%.	Example of rigorous longitudinal evaluation design that provides information about which components of social influences impact different types of tobacco use	63
A psychosocial approach to smoking prevention for urban black youth (Botvin et al.)	Evaluation of use of the life skills training prevention approach with urban African Americans in grade 7	Smoking during last month was reduced by 56% in treatment group, significantly more than in control group. No effects were found for measures of smoking during past week or day.	Evidence that life skills training was received positively by and is somewhat effective with African American students	66
School-based substance use prevention: A review of the state of the art in curriculum, 1980–1990 (Hansen)	Review of 45 evaluations of substance abuse prevention programs for grades 4–12 developed and evaluated in the 1980s	Comprehensive multicomponent programs yielded most positive outcomes. One of key program components concerns social influences. Additional research is needed to determine whether additive combination of many program components or inclusion of one or more key components accounted for success.	Article providing possible foundation for making decisions about which tobacco use prevention programs to implement	67

TABLE 5

Research and Evaluation Studies
School-Based Programs

TITLE OF ARTICLE	DESCRIPTION	PROGRAM EFFECTS	IMPORTANCE	PAGE
Diffusion of school-based substance abuse prevention programs (Rohrbach et al.)	Evaluation of two strategies to disseminate effective tobacco use prevention education programs to school districts	Not applicable	Discusses the practical implications for districts in adopting an evaluated prevention program	69
Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products (Sussman et al.)	Review of current (1975-1997) youth smoking cessation and prevention programs	In some studies weekly smoking declined from 0–11% with an average of 6% reduction. The finding was not statistically significant.	Excellent summary of adolescent cessation literature, suggesting that comprehensive prevention programs should include both prevention and cessation components	72
Psychosocial approaches to smoking prevention: A review of findings (Flay)	Review of 27 school-based social influences and life skills prevention research	Not applicable	Provides a good understanding of the history and overall impact of psychosocial programs	74
Relative effectiveness of continued, lapsed, and delayed smoking prevention intervention in senior high school students (Eckhardt, Woodruff, Elder) Predictors of participation in a school-based antitobacco activism program (Edwards et al.) The long-term prevention of tobacco use among junior high school students: Classroom and telephone interviews (Elder et al.)	Evaluation of Project SHOUT, a social influences curriculum for middle and high schools that includes student antitobacco activism and a telephone-based booster component	After four years of being exposed to program, students in treatment group showed 44% reduction in smoking.	An example of a program that targets all tobacco products and one of very few evaluations on use of social activism in a school-based prevention program	76
Smoking education programs, 1960–1976 (Thompson)	Review of early smoking education programs	Not applicable	Lessons learned about smoking prevention two decades ago still relevant to helping schools use their resources for smoking education effectively	79

TABLE 5

Research and Evaluation Studies
School-Community Programs

TITLE OF ARTICLE	DESCRIPTION	PROGRAM EFFECTS	IMPORTANCE	PAGE
Communitywide smoking prevention: Long-term outcomes of the Minnesota Heart Health Program and the Class of 1989 Study (Perry et al.)	Communitywide intervention study that included a school-based tobacco use prevention component based on social influences model, for grades 7–10	After five-year intervention, 14.6% of students in program communities were smoking weekly compared to 24.1% in control communities.	Provides additional support for a comprehensive school-community approach	81
Implementation effectiveness trial of a social influences smoking prevention program using schools and television (Flay et al.)	Evaluation of a program combining school (grade 7) and media components that involved parents	Among students enrolled in year-long health education class, viewing TV prevention programming was associated with lower lifetime cigarette use.	Example of a program conducted under real-world conditions that illustrates barriers to full implementation	83
A multicommunity trial for primary prevention of adolescent drug abuse (Pentz et al.)	Evaluation of Project STAR, a social skills, assertiveness training program in grades 6–7 with several community components	Weekly smoking was 11% among those in the treatment condition compared to 17% among those in control groups after one year.	Shows that community support of school-based programming can be successful and can bolster effects of the school program	86
Using mass media to prevent cigarette smoking among adolescent girls (Worden et al.)	Evaluation of a program that combined school-based instruction for grades 5–10 with a community-based media component	Weekly smoking was 40% lower among girls exposed to both the media and school interventions compared to those who received only the school intervention.	Provides further evidence that effective prevention programs in schools must be integrated with policy interventions and other community-based prevention efforts	87

TABLE 5

Research and Evaluation Studies
Community-Based Programs

TITLE OF ARTICLE	DESCRIPTION	PROGRAM EFFECTS	IMPORTANCE	PAGE
The effects of community policies to reduce youth access to tobacco (Forster et al.)	Evaluation of community-based strategies to reduce youth access to tobacco	Weekly teen smoking was 5.6% less in communities implementing tobacco control policies than in control communities after three years.	Example of a community-based policy intervention that could be combined with a school-based program	89
Evaluation of an enforcement program to reduce tobacco sales to minors (Cummings et al.)	Evaluation of the effects of compliance checks of retail outlets in reducing youth access to tobacco	Not applicable	Retail compliance checks perhaps effective in reducing youth access and worth considering as a policy component of a comprehensive school-community program	91
The influence of three mass media campaigns on variables related to adolescent cigarette smoking: Results of a field experience (Bauman et al.)	Evaluation of the impact of mass media (radio) on adolescent tobacco use	A mass media-only approach to smoking prevention showed no effects.	Media-based approaches, although enhancing school-based interventions, not effective alone	92
Youth access to tobacco: The effects of age, gender, vending machine locks, and "It's the Law" programs (DeFranza, Savageau, Aisquith)	Evaluation of a tobacco industry-sponsored program to reduce youth access to tobacco	Not applicable	Example of a policy intervention not effective in reducing youth access	93

Drug Prevention in Junior High: A Multi-Site Longitudinal Test

Summary by Luanne Rohrbach, Ph.D.

Importance. Several recent articles in the prevention literature have shown that the social influences model is the most promising approach for the prevention of tobacco and other drug use among adolescents. The articles describe the evaluation of Project ALERT (Adolescent Learning Experiences in Resistance Training), an excellent example of a social-influences-based, highly interactive program designed to prevent the use of tobacco and other drugs by students in junior high schools and middle schools. The program was developed and tested by RAND and is being disseminated nationally by the BEST Foundation for a Drug-Free Tomorrow.

Intent. The purpose of the studies was to evaluate the effectiveness of a substance abuse prevention program; that is, to determine whether or not it had met its learning objectives.

Sample and Methods. Project ALERT was rigorously evaluated in 30 schools throughout California and Oregon that represented a broad spectrum of communities (urban, suburban, and rural) and enrolled students from diverse socioeconomic and ethnic backgrounds. The schools were randomly assigned to one of three experimental conditions: a program taught by adult health educators, a program taught by adult health educators assisted by teen leaders from nearby high schools, and control. In the program schools students received an eight-lesson curriculum in grade seven and three booster lessons in grade eight. They were taught to identify external pressures to smoke, such as pressures from peers, family, and the media, as well as internal influences, such as the desire to fit in and look attractive. Students learned how to counter pro-tobacco arguments and to say "no" under pressure. The program reinforced a group norm opposed to the use of tobacco and drugs. Highly interactive, it used Socratic discussions, small-group exercises, role modeling, and repeated skills practice extensively. Students completed self-administered questionnaires before program delivery and at 3, 12, and 15 months after the program had been completed. The questionnaires assessed the use of tobacco and other drugs and psychosocial factors related to drug use.

Findings. Results at 3, 12, and 15 months after the program had been completed showed that Project ALERT reduced cigarette and marijuana use. Among students who had previously experimented with smoking, the program reduced all levels of smoking (monthly, weekly, and daily). In addition, it stimulated some experimental smokers to quit. However, the program had a negative effect on students who were smokers at the start of the program. That is, one year after the program, current smoking had increased among baseline smokers. Among students who had never tried cigarettes or marijuana before the program, however, the program delayed the initiation of marijuana use. Project ALERT also held down the regular (weekly) use of marijuana among prior users. As to the use of alcohol, the program produced modest effects, which were not maintained after the students entered grade eight. The program was equally effective in schools with high-minority and low-minority populations and in situations in which adult health educators taught alone or were assisted by older teen leaders.

The researchers continued to assess the students as they made their transition to high school.

They found that the effects of the program on tobacco and marijuana use disappeared by grade nine. However, earlier effects on cognitive risk factors, such as perceived consequences of tobacco and other drug use, beliefs about peer tobacco and other drug use norms, and confidence to refuse tobacco and other drug offers, persisted through grade twelve.

Limitations, Strengths, and Weaknesses. One of the strengths of this study was that it tested the effectiveness of Project ALERT on a sample of students representative of the ethnic diversity of California youths and found that the program was equally effective with high-minority and low-minority populations. Overall, the evaluation demonstrated that Project ALERT succeeded, particularly for students who were tobacco experimenters at baseline. However, the primary limitation of the study was that program effects on substance use were not maintained beyond grade nine. Once the lessons stopped, the program's effects on the use of tobacco and other drugs stopped. One implication of the findings for program implementers is that booster lessons in high schools are important for maintaining the prevention successes achieved in middle schools.

Meaning for Practitioners. The literature on school-based tobacco use prevention has shown that a social influences approach is the most promising for the prevention of tobacco use among adolescents. These studies evaluated a social influences curriculum for middle school youths, available (both the curriculum guide and teacher training) from the BEST Foundation for a Drug-Free Tomorrow. The studies suggest that this program should be part of a comprehensive prevention strategy that includes booster lessons and other components for high school youths as well.

References

Ellickson, P.L. & Bell, R.M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science, 247,* 1299–1305.

Bell, R.M., Ellickson, P.L. & Harrison, E.R. (1993). Do drug prevention effects persist into high school? How Project ALERT did with ninth graders. *Preventive Medicine, 22,* 463–483.

Ellickson, P.L., Bell, R.M., & McGuigan, K. (1993). Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health, 83*(6), 856–861.

Evaluation of a Tobacco and Alcohol Abuse Prevention Curriculum for Adolescents

Summary by Steve Sussman, Ph.D.

Importance. Many factors interfere with the implementation of potentially effective prevention programming. This study is one of the first effectiveness trials of tobacco and alcohol prevention programming under real-world conditions.

Intent. This project was supported in part by a contract with the California Department of Health Services. Project TAPP (Tobacco and Alcohol Prevention Program) is a comprehensive social influence-oriented school-based program consisting of 15 lessons. It was implemented by researchers at the University of Southern California (William B. Hansen) and the

University of California, Los Angeles (C. Kevin Malotte and Jonathan Fielding). Its effectiveness under the usual conditions of delivery in a large, heterogeneous, urban region (Los Angeles) was examined; that is, full implementation was not ensured, and teachers varied in motivation to teach the program.

Sample and Methods. This study examined the effectiveness of a tobacco and alcohol prevention program implemented among children in grades six and seven by 17 minimally trained classroom teachers. The teachers were selected by school district administrators and trained in one-day or two-day seminars. Trained peer leaders helped the teachers with program delivery. Students were instructed in the following:

- Refusal assertion training
- Normative education (correction of prevalence overestimates)
- Correction of mass media messages
- Information about parental influences
- Instruction in long- and short-term consequences of tobacco and alcohol use
- Public commitment to not smoke or drink

Two cohorts of youths were pretested and followed longitudinally in a quasi-experimental design from 1981 to 1983. Across the two cohorts the sample (n=2,900) was approximately 60 percent white, 14 percent Asian, 11 percent Latino, 4 percent African American, and 11 percent other. Five schools were assigned to a standard care condition, and six schools were assigned to the TAPP program. Of those schools two from each condition were provided with the curriculum in grade six classes, and one school from each condition was represented in both cohorts.

Findings. This program reduced the onset of smoking by 17 percent (not statistically significant) and the prevalence of smoking by approximately 40 percent in one cohort (significant). But it did not affect smoking in the other cohort or the use of alcohol in either cohort. The program was relatively effective among both whites and females. The study suggests that the dissemination of tobacco and alcohol use prevention programming is limited by the degree of the training of the teachers. Apparently, both thorough training and observation of curriculum delivery are needed to produce strong program effects.

Limitations, Strengths, and Weaknesses. This study involved the use of a convenience sample of schools and a quasi-experimental design. The design features weakened attempts to interpret the lack of differences or actual differences found between control and treatment.

Meaning for Practitioners. Practitioners can observe that, given even a relatively weak methodological design under conditions that mimic what one might encounter when delivering such a program under usual school conditions, a few program effects still become evident. Comprehensive social influences programming should be delivered to a general middle school population by well-trained teachers who believe in what they are doing. Then such programming is likely to be successful.

Reference

Hansen, W.B., Malotte, C.K., & Fielding, J.E. (1988). Evaluation of a tobacco and alcohol abuse prevention curriculum for adolescents. *Health Education Quarterly, 15,* 93–114.

Preventing the Use of Smokeless Tobacco and Cigarettes by Teens: Results of a Classroom Intervention

Summary by Carol D'Onofrio, Ph.D.

Importance. Schools need to be concerned about preventing smokeless tobacco use, which has increased significantly among male adolescents in recent years. The practice can cause oral cancer, other unhealthy oral conditions, and nicotine addiction and dependence. Further, it may increase the likelihood of cigarette smoking. Although at the time of this study no reports of smokeless tobacco prevention programs had been published, positive outcomes had been found in 23 evaluations of smoking prevention programs. Because cigarette smoking and smokeless tobacco use are related and similar psychosocial factors predict both behaviors, Severson and colleagues concluded that a classroom intervention effective in preventing smoking might also discourage smokeless tobacco use. A single program aimed at preventing both types of tobacco use would, therefore, be relevant to a larger proportion of students in each classroom.

Intent. The purpose of this project was to (1) integrate instruction on smokeless tobacco into a smoking prevention program developed and evaluated in prior research; and (2) test the impact of the program on smokeless tobacco use by young males and on cigarette smoking by youths of both sexes.

Sample and Methods. The prevention program titled Project PATH (Programs to Advance Teen Health) focused on sensitizing students to overt and covert pressures to use tobacco and on teaching effective ways to respond to those pressures. Goals were for students to practice refusing offers of tobacco while keeping their friends and to support their friends in refusing such offers. The seven-session curriculum included activities centered on decision making and other topics as well as seven videos shown to help standardize instruction and retain student interest. Two of the sessions focused on smokeless tobacco.

Twenty-two Oregon schools (nine high schools and 13 feeder middle schools) were stratified and randomly assigned to program or control conditions. This design permitted testing program effects at each school level. Because previous studies had found higher levels of smokeless tobacco use among rural students, before randomization the 12 rural schools (six high schools, each with a single feeder middle school) were matched on the level of drug use (cigarettes, smokeless tobacco, alcohol, and marijuana) among students in grades eight and ten. That step helped to ensure that the schools assigned to the program and control groups had equivalent levels of drug use before intervention.

Findings. Results provided modest support for the efficacy of the intervention in reducing smokeless tobacco use among males, especially at the middle school level. Although two prior studies had shown that the PATH Program reduced smoking, no effect on cigarette smoking or the use of other substances was observed. Students who dropped out of the study were at high risk for the use of tobacco and other substances. However, dropout rates did not differ for students in the program and control groups.

Limitations, Strengths, and Weaknesses. This study tested a promising idea with a well-conceived design that ran into problems. Because students at the highest risk of tobacco use dropped out of this study, findings that the PATH Program reduced experimental use of

smokeless tobacco among middle school boys may not be generalizable to other schools. The dropout rate also may explain why, despite two positive prior evaluations, no effect on cigarette smoking was observed. Alternatively, including smokeless tobacco materials may have diminished the impact of the smoking curriculum. Another possibility is that the inclusion of tobacco education in regular instruction may have diluted the relative impact of the intervention: ninety-eight percent of the teachers in control schools had somehow covered cigarette smoking in their curriculum and 87 percent had addressed smokeless tobacco. The results also may have been affected by analytic problems, including an inability to conduct classroom level analyses, limitations of data provided by the expired air samples, and insufficient funds to analyze the saliva samples for cotinine.

Meaning for Practitioners. This study has several important lessons for practitioners:

- The high rates of smokeless tobacco use among young males and the serious health consequences of this practice make it extremely important for schools to provide effective smokeless tobacco prevention and education programs.
- Although adding smokeless tobacco subject matter to a tested smoking prevention program makes efficient use of classroom time, that approach may not be effective.
- Different programs may be needed to prevent and reduce different forms of tobacco use.
- Reaching youths highest at risk for tobacco use through prevention and cessation programs remains a difficult challenge.

Reference

Severson, H.H., Glasgow, R., Witt, R., Brozovsky, P., Zoref, L., Black, C., Biglan, A., Ary, D., & Weissman, W. (1991). Preventing the use of smokeless tobacco and cigarettes by teens: Results of a classroom intervention. *Health Education Research, 6*(1), 109–120.

Project Towards No Tobacco Use: One-Year Behavioral Outcomes

Summary by Carol D'Onofrio, Ph.D.

Importance. These studies demonstrate state-of-the-art methods for (1) evaluating the effectiveness of a social influences program to prevent tobacco use by youths; and (2) testing the relative effectiveness of the program's three primary components. The finding that the combined program was most effective in reducing the initial and weekly use of cigarette smoking and smokeless tobacco suggests that different reasons for use exist and need to be counteracted simultaneously. However, because each of the three program components was effective in reducing some aspect of tobacco use, all may also contribute to prevention.

Intent. The purpose of the 1993 study was to examine the behavioral effects of four different curricula one year after program implementation. The purpose of the 1995 study was to determine whether preventive effects endured after students had made the transition from junior high school to high school. Both evaluations were part of Project Towards No Tobacco Use (Project TNT), a five-year school-based study of tobacco use prevention and cessation.

Sample and Methods. Forty-eight schools from 27 southern California school districts were blocked by region (urban, rural); by school type (middle school, grades six through eight; and junior high school, grades seven and eight); and by a composite measure of school size, socioeconomic status, academic status, demographic characteristics, and prevalence of tobacco use. Schools within each block were then randomly assigned to one of five conditions: (1) a program that counteracts normative social influences to use tobacco by teaching refusal skills; (2) a program that counteracts informational social influence to use tobacco by providing information about modeling and advertising tactics and by correcting inflated estimates of tobacco use prevalence; (3) a program that counteracts misperceptions or lack of knowledge about the short- and long-term physical consequences of tobacco use by providing information; (4) a combined curriculum; and (5) a control condition in which students receive routine prevention activities provided directly by their school.

In this five-group randomized block design, eight schools were assigned to each program condition, and 16 schools were assigned to the control condition. All grade seven students in schools assigned to the program conditions participated in their designated tobacco program. To maximize implementation, trained project health educators delivered the four experimental curricula over ten consecutive school days. A booster session with content tied to the original curriculum was delivered to program students when they were in grade eight.

On the days immediately before and after the two weeks of curriculum delivery, students in the program conditions were administered an in-class 20-page self-report questionnaire. The same questionnaire was used in the control schools, and data were collected two weeks apart. After one year and after two years, the questionnaire was administered to the same groups again. A sample of saliva or breath was collected from students before each survey administration to increase the accuracy of self-reported tobacco use. Immediately after the program was completed, data were collected from 6,716 seventh graders, of whom 50 percent were male and 60 percent were white. One-year follow-up data were collected from 7,052 students, 93 percent of whom reported attending the same school one year earlier. Two-year follow-up data were collected from 7,219 grade nine students in high schools fed by Project TNT junior high schools. Sixty-five percent of those students reported attending a Project TNT junior high school two years earlier. At each time point data were aggregated to the junior high school level, and the total school sample was used as the unit of analysis. Variables were constructed to measure changes in initial and weekly cigarette and smokeless tobacco use. Analyses first examined the prevalence of tobacco use by gender and region and then the effects of the four curricula on each behavioral measure of tobacco use.

Findings. The one-year evaluation found that each of the component programs was effective in decreasing both the initial and weekly use of cigarettes, except for the curriculum in which refusal skills were taught. Each curriculum was also effective in decreasing the use of smokeless tobacco, except for the informational social influence program component that focused on advertising tactics. Only the combined curriculum showed an effect on the weekly use of smokeless tobacco. The two-year evaluation indicated that initial intervention effects were maintained for the combined program and the physical consequences condition.

Rates of cigarette use did not differ by gender at any measurement interval. The prevalence of smokeless tobacco use rose only for males: one year after the program, another 5 percent of males had tried smokeless tobacco and another 1 percent used it weekly. Most experimental use and nearly all weekly use of smokeless tobacco were reported by males. In both evaluations more students in rural schools than in urban schools reported trying cigarettes and smokeless tobacco. However, the rates of increase in trial and regular use of cigarettes did not vary by region. And although rural students were more likely than urban students to try smokeless tobacco, the rates of weekly smokeless tobacco use did not vary by region.

Limitations, Strengths and Weaknesses. The design of this program and its longitudinal evaluation were very strong. The results provided new insight into the components of social influences programs that do and do not influence various types and forms of tobacco use. Innovations in the curriculum, the methods by which it was developed, and evaluation procedures were additional contributions. Although the findings were encouraging, they were based on an efficacy trial of the program implemented by trained project staff. The effectiveness of the program when implemented by regular classroom teachers is yet to be demonstrated.

Meaning for Practitioners. Findings from these studies suggest that:

- A multicomponent school-based tobacco use prevention program can be successful in attenuating increases in the weekly use of cigarettes and smokeless tobacco.
- Information about the physical consequences of tobacco use can be used to compose a curriculum as successful as a multicomponent social influences program in attenuating increases in smokeless tobacco use.
- Experimentation with cigarettes may be attenuated by a variety of approaches, although the combined program is needed to have an impact on regular smoking.
- Except for short-term effects in delaying the onset of smokeless tobacco use, a normative social influences program (refusal skills) is less efficacious than the other programs tested.

The investigators identified some important cautions in the continuing effort to improve the effectiveness of tobacco use prevention programs. The failure of prior research to demonstrate the effectiveness of teaching youths about the physical consequences of tobacco use has been widely attributed to content. The Project TNT evaluation highlighted the importance of also examining the effectiveness of alternative teaching methods. The possibility that the effectiveness of a curriculum may be diluted through the overuse of the approach also should be considered. In this program, the flooding of school systems and homes with red ribbon week, "just say no" programs, and other events based on a social influences model may have led to a lack of student excitement about the social influences curriculum and consequently reduced its effectiveness.

Other pitfalls in evaluation included attributing the effectiveness of a program to one particular component, such as refusal skills, and failing to recognize that social influences differ for different types of tobacco products. Another caution is that Project TNT was designed for junior high school students. To maintain effects with high school students, materials should be updated for their changing social situations, such as work, dating, and more unsupervised leisure time.

References

Sussman, S., Dent, C.W., Stacy, A.W., Sun, P., Craig, S., Simon, T.R., Burton, D., & Flay, B.R. (1993). Project Towards No Tobacco Use: One-year behavioral outcomes. *American Journal of Public Health, 83*(9), 1245–1250.

Dent, C. W., Sussman, S., Stacy, A.W., Craig, S., Burton, D., & Flay, B.R. (1995). Two-year behavior outcomes of Project Towards No Tobacco Use. *Journal of Consulting and Clinical Psychology, 63(4),* 676-677.

A Psychosocial Approach to Smoking Prevention for Urban Black Youths

Summary by John Elder, Ph.D.

Importance. Smoking prevention is clearly a preferred public health intervention compared to smoking cessation, given the difficulty of giving up an addiction to cigarettes. Despite high rates of smoking-related cancers among African Americans, the group is relatively understudied in smoking prevention programs. Although African Americans and white adolescents have essentially the same smoking prevalence rates, African American youths begin smoking somewhat later than do white youths.

Intent. The purpose of this study was to provide a test of a promising prevention approach to determine its feasibility and acceptability among urban African American junior high school students as well as the appropriateness of the curriculum materials and evaluation questionnaires. Outcome measures were included to assess the impact of this approach on smoking and smoking-related variables.

Sample and Methods. This study was conducted in nine urban junior high schools in northern New Jersey enrolling predominantly African American students. Of the 608 seventh-grade students who participated in the pretest, 221 were in the treatment group and 387 in the control group. The sample was composed of black students (87 percent); Latino students (10 percent); and white or other students (3 percent).

The Smoking Prevention Program included a broad-spectrum prevention strategy called Life Skills Training. The purpose of Life Skills Training was to facilitate the development of skills and knowledge specific to smoking prevention and to promote the acquisition of general, personal, and social skills. The underlying assumption of such an approach was that problem behaviors tend to run in packs; therefore, general social and personal abilities (e.g., problem solving, social and interpersonal skills) may prevent not only the uptake of cigarette smoking but also other problems, such as delinquency. The smoking-specific content included information concerning the adverse consequences of cigarette smoking, normative feedback information about smokers' rights and the decline of social acceptability of smoking, and class exercises demonstrating the immediate physiological effects of cigarette smoking. Each of 12 intervention sessions lasted for approximately 45 minutes.

Findings. The reactions of the students to the program were quite positive, although they were somewhat less positive than the reactions of the teachers. The seven teachers implementing the program did so very effectively. The

general result was that the researchers, having noted the smoking status of the students during the previous month, found significantly fewer smokers in the treatment group than in the control group as evidenced in the posttest.

Limitations, Strengths, and Weaknesses. In general this study supports the Life Skills Training approach for disadvantaged, urban African American youths. The strengths of this study were that, having been adapted from previously successful interventions with predominantly white audiences, it was applied almost exclusively to an African American cohort. It was limited because the data were analyzed at the individual level, even though the intervention occurred in the entire classroom. Other aspects of the study make it somewhat quasi-experimental in nature.

Implications for Practice. The Life Skills Training approach developed by Botvin and his colleagues has proven very promising in reducing cigarette smoking, alcohol use, and drug abuse. This broader approach arguably should have effects far beyond simple refusal skills emphasized in smoking-specific social influence based programs. On the other hand, teachers may need more training and classroom time to implement the Life Skills Training approach.

Reference

Botvin, G., Batson, H., Vitale, S., Bess, V., Baker, E., & Dusenbury, L.A. (1989). A psychosocial approach to smoking prevention for urban black youth. *Public Health Reports, 104(6),* 573–582.

School-Based Substance Use Prevention: A Review of the State of the Art in Curriculum, 1980–1990

Summary by Luanne Rohrbach, Ph.D.

Importance. Reviews of the literature on the results of prevention program evaluation are useful in that they place groups of prevention programs that employ a similar approach in categories or types and compare the types with program outcomes. Evidence for the effectiveness of a particular program approach is strengthened when a body of evaluation studies reaches similar conclusions. This article is a review of substance use prevention curricula developed and evaluated during the 1980s. The findings have implications for practitioners and decision makers in school settings, who must make pragmatic sense of the information available about various program approaches and select the programs to be implemented.

Intent. The goal of this review was to summarize what is known about what is effective in achieving substance abuse prevention. The reviewer focused on examining the consistency of findings across evaluation studies of substance abuse prevention programs.

Sample and Methods. The review was limited to programs that target late primary and secondary educational settings (grades four through twelve) and multiple substances (tobacco, alcohol, marijuana, and other drugs). The reviewer, W.B. Hansen, identified 45 evaluation studies for review. On the basis of the program

description included in the research report, he determined whether or not the program had 12 distinct types of content:

- Information about tobacco, alcohol, and other drugs and the consequences of using drugs
- The decision-making process
- Adopting a personal commitment (pledge) not to use substances
- Values clarification activities
- Goal setting
- Stress management
- Self-esteem enhancement
- Resistance skills training
- Life skills training
- Norm setting
- Assistance services (intervention and counseling)
- Alternative activities

Dr. Hansen found that the majority of programs included multiple components. To simplify his analysis of the prevention potential of different program strategies, he categorized each program according to one of six groups: (1) information/values clarification; (2) affective education; (3) social influences; (4) comprehensive; (5) alternatives; and (6) others.

He reviewed the outcomes of each of the 45 evaluation studies. The majority of studies assessed the effects of the program on students' tobacco, alcohol, and marijuana use. He coded the reported outcomes as positive, neutral, or negative and took into account such design issues as selection bias and statistical power. He then compared the outcomes for his categories of prevention programs.

Findings. Programs in Group 1 included those that had a primary emphasis on knowledge and those that had a single focus on values clarification. Group 2 programs included multiple components, such as decision making, values clarification, stress management, and self-esteem. Group 3 represented programs whose primary purpose was to teach students about social influences and develop skills to resist those pressures, and Group 4 reflected the broadest spectrum of program components. On average the programs included seven different prevention strategies. All included information, decision making, and resistance skills training. Group 5 programs stressed both life skills training and alternatives, and Group 6 included those programs that did not fit with any other group of content-oriented programs.

Dr. Hansen found that the programs in the information/values clarification group were predominantly neutral in their results and that affective programs were more likely to be positive (42 percent) than neutral (33 percent) or negative (25 percent). The most promising programs, those in the comprehensive and social influences groups, were the most consistent in preventing the onset of tobacco use and other drug use (63 percent positive outcomes for comprehensive and 72 percent positive outcomes for social influences).

Dr. Hansen concludes that "the most promising prevention strategy appears to be a comprehensive one including multiple components representing a wide variety of approaches to prevention." However, he states that, at this point in time, researchers cannot specify which program content areas or combinations of areas are necessary to include for effective prevention. Apparently, one of the key program components concerns social influences. However, additional research is needed to determine whether the additive combination of many program compo-

nents or the inclusion of one or more key components accounts for the success of comprehensive programs.

Limitations, Strengths, and Weaknesses. One limitation of this review is that it focused on programs that address multiple substances and specifically excluded programs that target only tobacco outcomes. However, the program approaches it describes are very similar to those already used in tobacco-specific programs. A strength of the study from the perspective of practitioners is that a qualitative, simplistic approach was used for coding program outcomes rather than a quantitative, meta-analytic approach. However, as the author points out, such a method is "not without flaw."

Meaning for Practitioners. This article can provide practitioners with a foundation for making decisions about which tobacco use prevention programs to implement. It shows that the best prevention strategy is one that is comprehensive, including multiple components that represent a wide variety of approaches. It suggests that one of the key components of an effective prevention tobacco use prevention program is a curriculum that addresses social influences.

Reference

Hansen, W.B. (1992). School-based substance use prevention: A review of the state of the art in curriculum, 1980–1990. *Health Education Research: Theory and Practice, 7(3),* 403–430.

Diffusion of School-Based Substance Abuse Prevention Programs

Summary by Carol D'Onofrio, Ph.D.

Importance. Although considerable progress has been made in developing and testing programs to prevent use of tobacco and other substances, few schools have adopted evaluated programs that show promising prevention effects. Studying the diffusion of educational innovations may provide insights promoting the adoption of those programs and result in a public health benefit.

Diffusion is the process through which members of a social system learn about, decide about, and act on ideas, practices, or objects perceived as new. The diffusion of innovations in schools has been characterized as a four-stage process: (1) *dissemination*, planned efforts to make school districts aware of a program and encourage its adoption; (2) *adoption*, the encouragement of districts to make a commitment to initiate the program; (3) *implementation*, interventions to assist teachers or other appropriate personnel to deliver the program in accord with its original design; and (4) *maintenance*, the encouragement of school administrators and teachers to continue using the program.

Intent. To determine whether the widespread diffusion of effective school-based substance abuse prevention programs to schools is feasible, this article reviews the literature on determinants of diffusion, results from recent research on strategies to increase diffusion, and barriers to successful diffusion in school settings. Implications of findings for policy, practice, and future research are also presented.

Sample and Methods. The literature was searched for published research related to the diffusion of innovative programs to schools. All articles identified were included in the review.

Findings. Despite the significant public and private resources that have gone into the development and testing of research-based substance abuse prevention programs, relatively few resources have been available to transfer those innovations from test sites to surrounding communities, states, and the nation. Consequently, schools most commonly use heavily marketed curricula that have not been evaluated, have been evaluated inadequately, or have been shown to be ineffective.

A combination of factors predicts the adoption of innovative school-based programs, including the organizational context in which they are used and the characteristics of the innovations and the individual program providers. Schools most likely to adopt innovations evidence strong teacher morale, a high degree of teacher involvement in decision making, active support of principals, general support of district administrators for the innovation, and a good fit between the innovation and local needs. Teachers are more likely to adopt innovations when they are well specified, are perceived as having a relative advantage over current practices, and require the same instructional strategies normally used. In the early stages of decision making, teachers tend to place less value on the effectiveness of an innovation than on such practical matters as the clarity of procedural instructions, the amount of preparation time required, and student response. Teacher adoption of tobacco and other drug abuse prevention programs is negatively related to conservatism, a need for collegial support, and the number of years of teaching experience. On the other hand, adoption of the programs is associated with positive attitudes toward the program, comfort with the program content and approach, perceived self-efficacy in implementing the program, a confident and nonauthoritarian teaching style, good overall teaching skills, and such characteristics as being outgoing, adventurous, and organized.

During the late 1980s the National Cancer Institute funded two large studies to test strategies for increasing the adoption of smoking prevention programs. In East Texas the training of local opinion leaders to show a videotape that modeled adoption of the program did not affect the readiness of school districts to adopt it. However, the adoption rate was increased by distributing a newsletter that summarized program effectiveness data and highlighted successful school districts that adopted the program. Two strategies to promote implementation were compared. A face-to-face teacher training workshop resulted in greater levels of program use than a self-paced training video but had no effect on overall completeness and fidelity of implementation. The distribution of a newsletter and the use of such incentives as teacher recognition, feedback on performance, and small material rewards had no effect on program maintenance.

In North Carolina on-site meetings increased the awareness and concerns of school administrators about tobacco use prevention. The program adoption rate of 80 percent was not affected by use of process consultation, an organizational development technique that included a workshop, a follow-up meeting, and various telephone contacts to assist school districts in deciding which, if any, curriculum to adopt. Teacherswho attended preimplementation training implemented a greater quantity of program lessons than did teachers who did not attend. An additional process consultation did not affect program maintenance, which was comparably low in both intervention and comparison districts.

Other studies of strategies to promote the diffusion of innovative health education programs consistently have found that preimplementation training for teachers increases program implementation. Another study found that one-to-one on-site intervention with school principals increased the implementation of a social influences substance abuse prevention program in elementary schools. Overall, however, the studies have shown that even when programs have been adopted by schools or school districts, implementation rates for teachers have varied considerably, and maintenance has tended to be low.

Numerous barriers to diffusion of promising substance abuse prevention programs have been identified. The substantial turbulence that exists in many schools is a significant barrier to implementation of any type of educational innovation. Sources of turbulence range from reductions in funding and related school restructuring efforts to on-campus gun-related violence. Teachers often feel that they are blamed for school failures and are targeted for change programs too often. The complexity and variation of school district organizational structures also inhibit diffusion, for a number of people typically are involved in decision making. The decision-making processes vary and are not always clear. Moreover, those who decide to adopt a program are usually not the same as those responsible for implementing it. A third set of organizational barriers pertains to the context for health instruction. Although most schools either mandate or endorse health education, it is rarely accorded an important priority or taught as a separate subject in the grades targeted for substance abuse prevention programs.

Specific characteristics of psychosocial-based prevention programs also may inhibit their widespread diffusion. The interactive teaching methods that appear to be a critical element of effective programs may be incompatible with the teaching style of some teachers. Prevention programs that target all youths regardless of previous substance use also impinge on the classroom time available to accomplish the schools' core mission and provide instruction on other health issues. Another problem is that although most developers emphasize the importance of implementing prevention programs as designed, the literature has shown consistently that adoption is more likely when educational innovations can easily be adapted to local situations. Researchers report that a substantial proportion of teachers who adopt recommended programs reinvent them in one way or another, thereby perhaps reducing their effectiveness.

Limitations, Strengths, and Weaknesses. This article provides a thorough overview of research on the diffusion of educational innovations to schools. However, detailed information about the purpose, methods, and findings of each study cited is not included in the review. A greater limitation is that many issues concerning the diffusion of effective tobacco use prevention programs have not yet been studied.

Meaning for Practitioners. Widespread diffusion of effective school-based substance abuse prevention programs may be feasible but may require changes in current policies and practices. Organized market-oriented diffusion systems are needed, not the passive strategies currently used. Change agents or brokers should strengthen linkages between program developers and the intended users and systematically apply strategies for effective diffusion. Teachers and administrators need assistance in determining whether claims of program effectiveness are founded on sound research. At the same time program developers need to address practical concerns related to program use.

Federal support is needed to increase the widespread diffusion of state-of-the-art substance abuse prevention programs. The relative allocation of funds for research on program development and for studies of new diffusion strategies also should be shifted. All of those efforts should work to bridge the gap between research and practice in school-based substance abuse prevention.

Reference

Rohrbach, L.A., D'Onofrio, C.N., Backer, T.E., & Montgomery, S.B. (1996). Diffusion of school-based substance abuse prevention programs. *American Behavioral Scientist, 39*(7), 919–934.

Effects of Thirty-Four Adolescent Tobacco Use Cessation and Prevention Trials on Regular Users of Tobacco Products

Summary by Luanne Rohrbach, Ph.D.

Importance. Many schools throughout California have received competitive grant funds from the California Department of Education to implement tobacco use prevention education in high schools. Both cessation and prevention components are mandated. Although considerable research has been done on what works for smoking cessation among adults, the study of effective cessation strategies for adolescents has been limited. Thus, many schools are providing cessation programs without a strong empirical basis for their approach. This article helps to fill some of the gaps in information about tobacco cessation among adolescents. It summarizes the small body of research in that area and contrasts the public health impact of adolescent cessation programs with that of adolescent-focused prevention approaches.

Intent. The article examines the current status of cessation and prevention research that targets adolescent regular tobacco users. The goal of the article is to review the last two and one-half decades of research in this area. Seventeen cessation and 17 prevention studies (targeting regular tobacco users) representing the work of a diversity of groups, individuals, and agencies are described, and outcome data are provided for each study.

Sample and Methods. The 17 tobacco use cessation programs selected for review represented nearly all of the published and evaluated cessation programs implemented between 1975 and September 1997. In addition, 17 adolescent prevention studies that reported data regarding the effects of programming on regular tobacco users under the age of twenty-one were reviewed. The prevention studies represented examples of the work of different research groups across the generations of tobacco prevention research since the 1980s. The article summarizes both sets of programs in terms of content, setting, participants, recruitment methods, retention, evaluation design, and outcomes (quit rates). The public health impact of cessation and prevention programs as based on quit rates are contrasted.

Findings. Twelve of the cessation programs addressed only smoking, four addressed only smokeless tobacco use, and one addressed both. The contents of the cessation programs were based on a wide range of theoretical frameworks, including chemical addiction, social influences, stages of change, coping skills, substitution, contingency, and values clarification. The authors state that this diversity of theoretical perspectives suggests that there is little clarity in the field as to which theories are the most appropriate for adolescent smoking cessation. Most of the programs were delivered in school-based clinics. The average number of sessions was 6.3, with a range from one to 20 sessions. With one exception adolescent participants ranged from twelve to twenty-two years of age. The most popular method of recruitment to the program was person-to-person contact. Other methods included requiring student smokers to attend, obtaining referrals from school officials, posting flyers, and using public address announcements. The reach of the recruitment strategies or the number of participants who attended the first session relative to the number of adolescents who were notified ranged from 6 percent to 100 percent, with an average of about 62 percent. The cessation studies had less trouble in keeping students than in getting them enrolled. Retention in the clinic sessions ranged from 46 percent to 100 percent, with an average of 77 percent of tobacco users present at the baseline and at the last program session.

The most common evaluation design for the cessation studies was a single group in which cessation rates in the program group were evaluated without comparison with a control group. On average the participants were followed for 6.4 months after the intervention. Among the 12 studies that reported quit rates, the mean quit rate at posttest was 20.7 percent (range = 0 percent to 36 percent). The quit rate at follow-up dropped to a mean of 13 percent, which may be compared with naturally occurring quit rates among adolescents over a six-month period, rates that vary from about 0 percent to 11 percent.

That the majority of the sample of prevention programs were social influences oriented reflected the consensus among tobacco prevention researchers that the programs that tend to work are based on social influences theories. All of the programs also included information about the physical consequences of tobacco use. Fourteen of the programs were school based and three were communitywide. The average number of program sessions was 14.4, and from three to 30 sessions were held. Because the studies were predominantly school based, participants included both users and nonusers of tobacco who were mandated to attend prevention classes as part of their education and who ranged from nine to nineteen years of age.

To evaluate program prevention outcomes, researchers subtracted the percent change of weekly smoking in the control condition from baseline to follow-up from the percent change in the program condition from baseline to follow-up. Among the 11 studies that reported weekly smoking, the mean reduction was 6 percent, and ranged from 0 percent to 11 percent.

On the basis of their review, the authors concluded that adolescent tobacco use cessation programs appear to produce greater quit rates than those that occur naturally among control groups. However, the variation between the cessation studies makes impossible a determination of precisely which cessation strategies work and which do not. Prevention studies reported lower quit rates than did cessation studies but greater reach and significantly longer follow-up. As to potential public health impact,

prevention and cessation programs might be considered equally successful. Each approach is useful for different age groups. Prevention appears to be effective for younger, less-frequent users of tobacco, and cessation appears to be appropriate for older, heavier users who are farther along in the stages of change.

Limitations, Strengths, and Weaknesses. This article provides an excellent summary of the adolescent cessation literature. It points out many of the limitations of this small body of research, including a lack of clarity in the field about the most appropriate theoretical foundation for programs, the preponderance of single-group evaluation designs, and the need for long-term follow-up. More research on cessation approaches is needed before statements can be made about what works best for adolescents.

Meaning for Practitioners. The article suggests that schools may help to contribute to an understanding about what is effective in cessation approaches for adolescents by conducting evaluations of their cessation programs, using designs that are as rigorous as possible. In addition, it suggests that a comprehensive prevention program should include both prevention and cessation components, each focusing on different age groups. Prevention components should focus on younger, less-frequent tobacco users, and cessation should target older, heavier users of tobacco.

Reference

Sussman, S., Lichtman, K., Ritt, A., & Pallonen, U. (1999). Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products. *Substance Use and Misuse, 34* (11).

Psychosocial Approaches to Smoking Prevention: A Review of Findings

Summary by Steve Sussman, Ph.D.

Importance. The social influences movement permeated tobacco use prevention research in the mid-1970s after the researchers moved away from an approach that had emphasized counteracting the long-term consequences of tobacco use and values clarification. By systematically reviewing psychosocial (i.e., social influences and life skills) approaches to school-based smoking prevention, along the lines of four historical groupings or "generations," this article provides a very good understanding of the history, methodological improvements, and overall impact of psychosocial programs and a springboard for new generations of rigorous research in this arena.

Intent. In 1984 Brian Flay presented the beginnings of this review for a Research Analysis and Utilization System (RAUS) Review at the National Institute on Drug Abuse. He wrote the present review for a major health journal to discuss the genesis of the social influences movement up to that time.

Sample and Methods. Dr. Flay (1985) reviewed 27 school-based studies of psychosocial approaches to smoking prevention. The research studies were considered in four "generations": (1) the work by Richard Evans and his colleagues at the University of Houston; (2) seven pilot studies of improved programs at Stanford, Minnesota, New York, and Washington, with one school or classroom per condition;

(3) a third generation involving 12 improved prototype studies by the four groups and others, with two or three units randomly assigned to conditions; and (4) a fourth generation involving six studies in which maximizing internal validity was of primary concern.

Findings. Richard Evans and his colleagues at the University of Houston (Evans 1976; Evans et al. 1978, 1981) derived the basis for the social influences approach, and the first tests of that approach are regarded as the first generation in Flay's review. The seminal work on the social influences approach to smoking prevention developed by the University of Houston group relied heavily on McGuire's social inoculation theory. Social inoculation is analogous to biological inoculation whereby a person is exposed to a small dose of an infectious agent in order to develop antibodies, thus reducing susceptibility to subsequent exposure. Applied to smoking, this model posits that resistance to persuasion will be greater if one has developed arguments with which to counter social pressure to smoke (Evans 1976). Two studies by the Houston group were based on that theoretical approach, together with theoretical bolstering from attitude change (persuasive communications) theory and social learning theory.

Despite inconclusive results from the first Houston study, the theoretical derivations were firm enough to encourage other researchers to test further psychosocial approaches to smoking prevention. Seven second-generation studies placed greater emphasis on elements derived from theories of social learning, attribution, commitment, problem behavior, cognitive-behavior therapy, and the efficacy of peer teaching. Second-generation studies at Stanford, Minnesota, New York, and Washington tested improved programs. However, only one school or classroom was assigned to each experimental condition.

The four groups of second-generation researchers quickly moved into improved third-generation studies of their approaches, assigning two or three schools or classrooms per condition, usually randomly. Researchers from the Stanford and Minnesota groups were joined in third-generation research by three other groups that tried the social influences approach in larger community studies (in North Karelia, Oslo, and Minnesota). In addition, Shaffer and colleagues (at the Harvard Medical School) provided a third-generation test of a cognitively oriented social influences curriculum, and Pentz, now at the University of Southern California, provided a third-generation test of a general social competence skills approach to prevention.

Third-generation studies improved much on the first- and second-generation studies, including the random assignment of multiple schools to conditions. However, because they still exhibited many methodological problems, they lent themselves to several plausible alternative explanations of their findings. Most of the third-generation studies are susceptible to two alternative interpretations of any observed effects. Testing by treatment interactions is possible because in most instances the program and data collection activities would have been perceived by students as related. Hawthorne effects are also possible in that in almost all studies, program students received more special attention than the controls. The Minnesota, New York, Stanford, and University of Southern California studies attempted to test the value of various components of their programs, particularly the use of peer leaders, social versus health programs, the use of media, and the use of public commitment procedure.

In the fourth generation of research, investigators placed increasing emphasis on maximizing internal validity. Researchers from the original Stanford and Minnesota groups were responsi-

ble for improved (fourth-generation) studies of the social influences approach. They were joined by four new research groups (Best, Flay, and colleagues, Canada; D. Fisher and colleagues, Australia; Dielman and colleagues. Michigan; and Biglan, Severson, and colleagues, Oregon). The consistency of reported results from second- and third-generation studies provided the impetus for improved studies. The fourth-generation studies may be characterized as large-scale field trials, with five or more (half with 11 or more) units (schools or classrooms) randomly assigned to each condition. Most may also be characterized as demonstration projects, summative evaluations, or efficacy trials in that they compared only program and control conditions without attempting to test components or providers. All of the fourth-generation studies tested a comprehensive social influences approach. Some of the six fourth-generation studies were superior methodologically to many of the second- and third-generation studies. The use of simpler and more rigorous designs generally provided for greater internal validity and more interpretable findings.

Limitations, Strengths, and Weaknesses. Reported results were fairly consistent across the studies, with each tested program seeming to reduce smoking onset by about 50 percent. However, none of the pilot or prototype studies considered alone provided easily interpretable results. The major contributions were improved programs and methods. The findings from the fourth generation of studies were more easily interpreted.

Meaning for Practitioners. Overall, psychosocial approaches to smoking prevention are apparently effective. Research since 1985 continues to support the utility of comprehensive social influences prevention programming for users of tobacco and other substances. Effects of school-based programs can last up to six years contingent on initial and continued participation in programming. Without the use of booster programming through high school, effects will weaken, especially for baseline tobacco users.

Reference

Flay, B.R. (1985). Psychosocial approaches to smoking prevention: A review of findings. *Health Psychology, 4*, 449–488.

Relative Effectiveness of Continued, Lapsed, and Delayed Smoking Prevention Intervention in Senior High School Students

Summary by Steve Sussman, Ph.D.

Importance. Evidence collected from the mid-1970s through the mid-1980s indicated that cigarette smoking prevention programs can inhibit the onset or increases in use by up to 50 percent among young adolescents for up to three years after completion of the programs. No evidence was found as to whether prevention programming can be successful when applied to all tobacco products. In addition, the research climate was ready to develop and implement more rigorous work in true experimental tobacco use prevention. This article is centered on that group of studies intended, through an experimental design, to show the effects of prevention programming on all tobacco products.

In addition, activities attacking the legitimacy of the tobacco industry may create a social climate opposed to the use of tobacco. Relatively little research exists on the use of social activism, although activism components typically appear in effective school-based programs (counter advertising and letter writing). Project SHOUT (Students Helping Others Understand Tobacco) examined this type of component.

Intent. In response to a research announcement by the National Cancer Institute, John Elder was funded in the late 1980s through the early 1990s to examine tobacco use prevention programming that (1) examined school-based prevention of all tobacco products; (2) involved undergraduate facilitators as program implementers; (3) introduced the use of telephone-based booster programming, which adds a personal touch to school-based prevention programming; and (4) implemented and examined the usefulness of a student activism component.

Sample and Methods. Project SHOUT is a school-based program that uses college undergraduates as change agents and telephone boosters. The program was developed by Dr. Elder and his colleagues at San Diego State University. It was implemented in 11 junior high schools in San Diego County, California, and was compared with 11 other schools that served as matched controls in a true experimental field design (n=2,668 at the last assessment). Regarding ethnicity, 57 percent of the students were white, 24 percent Latino, and 19 percent other.

Intervention participants received 18 classroom lessons during the first two years of the program. During the first year of the intervention, grade seven students received six weekly lessons in the fall and four monthly lessons in the spring. The lessons were comprehensive social influences-oriented in content. The students were taught the short-term and long-term physical and social consequences of tobacco use and received training in refusal assertion and correction of false social images associated with use (e.g., counter advertising) and making a public commitment not to use tobacco products. Novel features of the program included a schoolwide assembly to perform antitobacco skits and the use of college undergraduates as facilitators. More than 100 undergraduates served as volunteers for the project over the three-year period. They received units of college credit for their involvement.

In summary, the intervention involved:

- A videotape presentation on the health consequences of tobacco use
- Information on tobacco products
- A discussion of the antecedents and social consequences of tobacco use
- Refusal assertion training and practice and assertion refusal skits developed and performed for classmates
- Training in decision making
- Letters being written to tobacco companies by students expressing their views on tobacco use
- A discussion of tobacco addiction and cessation
- A public commitment made by youths regarding their stance on tobacco use
- Schoolwide assembly in which a slide show of previously performed refusal assertion skits was presented
- Newsletter being sent to the home presenting information on tobacco control events, new legislation, research, and the power of the tobacco industry
- The introduction of telephone counseling, by which normative education, refusal assertion, tobacco news, and cessation were further discussed (including presentation of a free tobacco cessation help line)

Also developed was a school-based extra-classroom antitobacco activism program. Participants were concurrently receiving the classroom component of Project SHOUT. The activism component was conducted between the main phase of the project and the booster sessions while the youths were in grade seven. Five activism activities were selected: (1) letters to baseball teams to not endorse tobacco products; (2) a contest that involved designing a poster, using the theme that tobacco is a drug; (3) interviews by youths of at least ten other youths to determine views about popular tobacco myths; (4) letters to restaurants about the effects of second-hand smoke and the way to eliminate the problem; and (5) letters to magazine editors requesting the removal of advertisements for tobacco products.

During the second year of the intervention, eight monthly lessons were provided to eighth graders. Along with repetition of material previously given, students were involved in community action to mobilize them as antitobacco activists (encouraging others not to use or quit using tobacco). Booster programming in grade nine included the production of five newsletters that were mailed to students' homes and two newsletters mailed to parents, both with a tobacco action theme. Telephone contacts were made. Four calls averaging five minutes each were made to each student that year by college undergraduates (a very novel aspect of Project SHOUT). Topics of the telephone contacts and newsletter included normative education, refusal assertion skills, and cessation.

During the third-year follow-up in grade ten, participants were tracked and consented to further participation during grade eleven. The intervention was reintroduced in the grade eleven to one-half of the intervention students, was withdrawn from the other half, and was begun with one-half of the control students. This intervention consisted of two newsletters and one telephone call on smoking prevention and cessation. The newsletter content included information on tobacco company tactics, recent legislation, cessation, and passive smoke. The telephone call discussion was focused on eliminating passive smoking.

Findings. Significant differences existed between the continued intervention and the control conditions (a 44 percent relative reduction in smoking over the four-year follow-up). The rates of past-month and past-week tobacco use were the same across intervention and control conditions for the first two assessment periods. At the third assessment the control group showed a sharp rise in use and the program group showed about one-third less growth in cigarette or smokeless tobacco use. Effects on monthly use held for whites and on weekly use for Latinos. It is unlikely that the activism component provided an effect on tobacco use behavior. (The program effects appeared two years later.) However, this information is useful for the development of such programming, some of which may be effective. Results regarding participation in this component indicated that youths with a higher socioeconomic status and in a rural location were 40 percent to 60 percent more likely to participate in the activism activities. Socioeconomic status is often inversely related to self-reported tobacco use. However, several tobacco-use-related variables were not associated with participation (e.g., use by friends and parents), suggesting that users and nonusers may participate in at least some of the events. Although activism activities may be limited in their reach at schools, a large reach may provide a measurable impact.

The grade eleven assessment was held at some point during the same year of the intervention introduction/reintroduction on 58 percent of the original cohort. Past-month smoking was

lowest in the continued intervention and was followed by the delayed intervention, the lapsed intervention, and the continued control condition.

Limitations, Strengths, and Weaknesses. The activism component was not intensely delivered and evaluated. Rather, it suggests the means by which such a program component might be developed for future systematic testing. Although undergraduate students were used as program deliverers, any volunteer perhaps could serve the same function. Further testing of that possibility is needed. The relative importance of the classroom versus telephone interventions is not clear. Those different modalities need testing.

Meaning for Practitioners. Project SHOUT is an example of a tobacco use prevention program that targets all tobacco products and, evaluated through a relatively advanced methodological design, showed a 44 percent relative reduction in monthly tobacco use four years after the program was completed. It highlights the need for continued booster programming to maintain the effects of successful programming.

References

Eckhardt, L., Woodruff, S.I., & Elder, J.P. (1997). Relative effectiveness of continued, lapsed, and delayed smoking prevention intervention in senior high school students. *American Journal of Health Promotion, 11,* 418–421.

Edwards, C.C., Elder, J.P., de Moor, C., Wildey, M.B., Mayer, J.A., & Senn, K.L. (1992). Predictors of participation in a school-based anti-tobacco activism program. *Journal of Community Health, 17,* 283–289.

Elder, J.P., Wildey, M., de Moor, C., Sallis, J.F., Eckhardt, L., Edwards, C., Erickson, A., Golbeck, A., Hovell, M., Johnston, D., Levitz, M.D., Molgaard, C., Young, R., Vito, D., & Woodruff, S.I. (1993). The long-term prevention of tobacco use among junior high school students: Classroom and telephone interventions. *American Journal of Public Health, 83,* 1239–1244.

Smoking Education Programs, 1960–1976

Summary by Carol D'Onofrio, Ph.D.

Importance. As scientific evidence about the consequences to health of smoking mounted in the 1960s, many approaches to changing smoking behavior were tried. Efforts to evaluate program effectiveness were sporadic and varied in quality. By systematically reviewing the evidence accumulated through the mid 1970s, this article set the stage for developing a new generation of smoking prevention programs. Lessons learned over two decades ago are still relevant in helping schools use their resources for smoking education more effectively.

Intent. In 1976 the Public Education Section of the American Cancer Society commissioned this review of the literature to help determine the direction that its smoking prevention programs should take in the coming years.

Sample and Methods. Published reports of educational programs for changing smoking behavior were identified, primarily by reviewing citations from 1960 through 1976 in the *Index Medicus* and the *Bibliography on Smoking and Health* published by the National Clearinghouse for Smoking and Health. Excluded from the review were (1) publications not in English;

(2) reports of programs concerned solely with changing knowledge and attitudes; (3) reports of attempts to change smoking behavior through the use of medication, hypnosis, psychotherapy, sensory deprivation, electric shock, and other conditioning mechanisms relying on elaborate equipment; (4) formal school health education curriculum guides; and (5) campaigns relying solely on the mass media. The framework within which the studies were discussed emerged from the data. Almost all programs were addressed either to youths or to adults, with little overlap. Within each age grouping other categories of programs were identified.

Findings. Most programs for both youths and adults seemed to accept the premise that humans are rational and will act in their own best interest. That premise was apparent in all programs that emphasized the health, social, or economic costs of smoking. Other major theoretical concepts employed by programs included (1) use of social pressure and support, especially from peers, to bring about change; (2) active participation of the learner; and (3) smoking as a conditioned response to various stimuli that can be eliminated by a new conditioning process.

Most school programs had no significant effect on students' smoking habits. Typically, campaigns employed some combination of discussions, lectures, demonstrations, assemblies, posters, pamphlets, films, articles in the school paper, and the use of resource people. Programs varied in length from one week to several years and targeted students from elementary school through college.

The most commonly reported type of youth program involved working with junior or senior high school students to plan and carry out educational activities for their peers or for students in a lower grade. Although activities were described, their effectiveness generally was not evaluated. One exception was the Saskatoon smoking study, which followed grade eight student leaders from 32 schools for two years. However, smoking rates did not differ among students exposed and not exposed to peer-led education.

Some studies compared the effectiveness of various educational methods with a pretest-posttest design. Most such evaluations did not employ a control group, and several different measures of success were used. Because of these and other methodological limitations, findings tended to be contradictory or inconclusive. Overall, little behavior change was observed in this group of studies.

Although many antismoking programs for youths emphasized the message that smoking is hazardous to one's health, the programs had little effect on smoking behavior. Comparisons of programs emphasizing immediate versus long-term consequences of smoking produced inconsistent findings. Results from a few attempts to change the image of smokers and nonsmokers also were inconclusive. The best reported results came from a four-year prospective study conducted with adolescent male apprentices in a Swiss machine factory. Although a multimethod health education program did not produce many ex-smokers, it did deter nonsmokers from taking up the habit. Findings about smoking programs for adults are also reported but are not summarized here.

Limitations, Strengths, and Weaknesses. The studies reviewed differed considerably in the measures used, the evaluation techniques employed, and topics covered in published reports. Those differences limited and complicated the review conducted. Nevertheless, results made two compelling points very clearly: (1) most attempts to influence the smoking behavior of youths have had little success; and (2) program evaluation using standardized methods is greatly needed.

Meaning for Practitioners. Many schools and teachers still rely on approaches to smoking prevention found ineffective a quarter of a century ago. More efforts should be made to educate teachers about what does work and what does not work and to encourage adoption of prevention programs shown to be effective. Because the number of effective programs is still limited, a continuing need exists for rigorous evaluation of promising smoking prevention curricula.

Reference

Thompson, E.L. (1978). Smoking education programs, 1960–1976. *American Journal of Public Health, 68(3),* 220–257.

Communitywide Smoking Prevention: Long-Term Outcomes of the Minnesota Heart Health Program and the Class of 1989 Study

Summary by Luanne Rohrbach, Ph.D.

Importance. Several reviews of the prevention literature have suggested that a comprehensive community approach, which includes school prevention programs and policy change, mass media, and other community-based strategies, will be very effective in reducing tobacco and other substance use among youths. This article describes the Minnesota Heart Health Program, an excellent example of a communitywide prevention program combining school-based tobacco prevention and other components designed to restructure the social environment affecting heart-healthy behaviors and values.

Intent. The goal of this research, known as the Class of 1989 study, was to determine whether the effects of a school-based smoking prevention program would more likely be maintained if the program was part of a five-year communitywide heart disease prevention intervention.

Sample and Methods. Two of the six communities included in the Minnesota Heart Health Program research design, one program and one control community, participated in the Class of 1989 study. The primary school-based program component, the Minnesota Smoking Prevention Program, was implemented over a three-year period beginning in the seventh grade. The program, based on the social influences model, included lessons on the short-term consequences of smoking, perceptions about peer smoking norms, reasons for smoking by adolescents, social factors influencing adolescents to smoke because of peer and adult models and advertising, and training in resistance skills. The school-based program was complemented by various communitywide prevention strategies, such as adult smoking cessation programs; implementation of smoking ordinances in schools and the community; community organization and citizen task forces to develop educational campaigns; mass media via television, radio, newsprint, and so on; and adult and youth education in churches, at work sites, and in other settings.

In both the program and control communities, students in the class of 1989 were surveyed annually from grades six through twelve. The primary outcome measures were the proportion of students who had smoked in the seven days prior to the survey (weekly smoking preva-

lence) and smoking intensity, represented by the number of cigarettes smoked per week by each student.

Findings. Significant differences for weekly smoking prevalence and smoking intensity between the program and control communities were found in all follow-up years (grades seven through twelve). At the end of high school, 14.6 percent of students in the program community were smoking weekly versus 24.1 percent in the control community. The authors state that the results of the study should be considered in comparison with other smoking prevention studies, which have shown that the effects of prevention programs diminish within two to three years after completion of the program. They suggest that "behavioral education in schools, booster programs to sustain training, and complementary communitywide change may all be needed to maintain effects with young people."

Limitations, Strengths, and Weaknesses. Several limitations of the study should be noted. First, because the communities were not randomly assigned to treatment and control conditions, the researchers were unable to rule out several plausible alternative explanations for the results. For example, local historical events may have caused the lower rate of smoking onset in the program community and the increase in smoking in the control community. Another limitation of the study was that the study population was primarily white and middle class. Therefore, the results may not be generalizable to youths in ethnically diverse, lower socioeconomic communities. One of the strengths of the study was the inclusion of multiple complementary school and community program components in the intervention community. Another strength was the assessment of program outcomes over a six-year period.

Meaning for Practitioners. This study provides additional support for a comprehensive approach to tobacco use prevention integrating school prevention programs with community-based efforts to change policies, increase public awareness about tobacco issues, and change social norms to make tobacco use less acceptable. In California every county and many individual communities are implementing a wide variety of tobacco control strategies to achieve those goals. School program planners and designers of local tobacco control programs should try to collaborate with one another, to disseminate programmatic messages that are mutually reinforcing.

Reference

Perry, C.L., Kelder, S.H., Murray, D.M., & Klepp, K. (1992). Communitywide smoking prevention: Long-term outcomes of the Minnesota Heart Health Program and the Class of 1989 Study. *American Journal of Public Health, 82(9),* 1210–1216.

Implementation Effectiveness Trial of a Social Influences Smoking Prevention Program Using Schools and Television

Summary by Carol D'Onofrio, Ph.D.

Importance. The extent to which schools and teachers accept and implement a smoking prevention program affects its availability and ultimately its effectiveness. Because many factors may impede implementation, how those barriers might be reduced should be examined. This study responded to that challenge in the first real-world effectiveness trial of a social influences approach to smoking prevention.

Intent. In response to an initiative of a Los Angeles television station, B.R. Flay and colleagues assessed the effects of five innovations on (1) the acceptance of a school-based social influences smoking prevention program by teachers, students, and parents; (2) the level and quality of program implementation; and (3) program effectiveness. The innovations were (1) supplementing a school-based social influences prevention program with coordinated television programming; (2) providing the program to complete grade cohorts within schools rather than just to some classes; (3) encouraging family involvement to utilize positive and minimize negative family influences; (4) providing a smoking cessation program to parents and other adults important to students; and (5) providing teachers with detailed curriculum materials.

Sample and Methods. Four months before the program was initiated, the television station mailed promotional materials to all school district superintendents and junior high school principals in the viewing area. Schools requesting materials were considered pure program (P) if grade seven students were enrolled in a year-long health education class and mixed (M) if the district had a half-year course so that just half of a school's seventh graders were studying health education at the time the program was conducted. Schools not requesting materials were recruited as controls (C) on the basis of their comparability in size, ethnic composition, and socioeconomic status to P or M schools in the same district. This article is based on data from 53 schools with grade seven classrooms completing assessments. A quasi-experimental evaluation design was used to compare 12 P schools, 23 M schools, and 18 C schools.

The intervention included four distinct components.

- During its 5 p.m. news show each school day in the last week of February 1982, the television station aired a five-minute segment showing a class of students participating in program activities.
- During the same week, regular health education teachers for grade seven taught a fully coordinated five-day classroom smoking prevention curriculum focused on creating student awareness of social pressures to smoke and providing social skills to resist such pressures.
- Teachers encouraged family members to view the television segments together, in addition to which parents and guardians of participating students received basic information and a homework booklet.
- During the following week, the television station aired five five-minute segments on smoking cessation coordinated with a self-help smoking cessation kit included in the materials sent home with students.

Within each P or C school, school personnel selected three to four classrooms for assessment. Within the M schools, three classrooms receiving the program and three classrooms not receiving it were chosen. All students in grade seven were assessed if a participating M school had six or less classrooms. Participants were surveyed on four occasions: at a pretest in January-February 1982; at an initial posttest in April 1982; and at two annual follow-ups conducted in April of 1983 and 1984. The questionnaire contained three types of items: (1) smoking-related knowledge, social perceptions, intentions, and behaviors; (2) student characteristics and risk factors; and (3) information about implementation (level of viewing and parental involvement). A total of 4,891 seventh grade students completed the pretest. Of that number 81 percent completed the first posttest, 61 percent completed the first follow-up, and 45 percent completed the final follow-up. This article was based only on data from the 1,419 students (29 percent) who completed all four assessments.

Findings. Over one-half million people viewed each of the television segments. About 40 percent of the eligible schools in the viewing area (153 schools) ordered classroom curriculum materials for 600 teachers and over 50,000 students. Participation in the quasi-experimental evaluation appeared to have affected school response. The school-level questionnaire was returned by over 95 percent of the 53 schools participating in the quasi-experimental evaluation but by only 64 percent of remaining schools. All of the P and M schools reported receiving program materials and implementing the program. However, only 49 percent of the other schools that had ordered the material implemented all five class sessions, 22 percent delivered some of the sessions, 10 percent implemented the program a week later, and 12 percent reported that they would do so later. Within the schools participating in the evaluation, program teachers were more likely to be science teachers (49 percent versus 30 percent). In the other schools health teachers predominated (65 percent versus 24 percent).

The pretest revealed that students in the C schools had greater minority representation, had more social risk factors for smoking, and were more likely than the P or M students to have already tried smoking. Analysis of students dropping out of the evaluation showed that 56 percent of the females but only 44 percent of the males had completed the study. Students completing all assessments were also at lower risk of becoming cigarette smokers than was the population of same-age students. Furthermore, students in the P and M conditions were more likely to complete the study than were those in the C group. Although the results may affect the generalizability of findings to other schools, they did not affect assessment of program effects within the study sample.

Outcomes did not differ for students in the P and M schools, perhaps because in some P schools only classrooms participating in the evaluation received the program. This would mean that students in the P schools were in situations much like those in the M schools. Therefore, the two groups were combined in assessing program effects. The P and the C groups did not differ at any measurement interval as to knowledge, intentions, or behavior concerning smoking. On the first posttest, the P students reduced their estimates of the number of smokers in their environment to more realistic levels. However, the estimates did not differ from those of students in the C condition on follow-up surveys.

Among program students only on all three follow-up surveys, the number of television segments viewed was associated with a lower rate of increase in lifetime cigarette use. Parent participation in the program was related to smaller increases in student rates of current and

lifetime smoking at the first posttest but not on later follow-ups. However, at the one-year follow-up, parent participation was associated with a lower rate of perceived peer approval for smoking. At the two-year follow-up the number of activities jointly undertaken by parents and children during the program predicted the child's intentions to refuse cigarette offers both from a group of friends and from his or her best friend.

Limitations, Strengths, and Weaknesses. This study took advantage of a unique opportunity to evaluate the effects of a coordinated school and television approach to smoking prevention. Practical considerations led to the use of (1) a shortened curriculum that may not have provided a strong test of the social influences approach; and (2) a quasi-experimental evaluation design that introduced a self-selection bias into the sample at the levels of school, classroom, teacher, student, and family. Although those biases tended to cancel each other out, findings about program effects are difficult to interpret and may not be generalizable beyond schools agreeing to participate in an evaluation. Nevertheless, the positive viewing and participation results suggest that social influences prevention programming, whether based at school or presented on television, is moderately acceptable to schools and very acceptable to students and parents. Less than optimal implementation by schools obviously reduced program availability to students and parents. More needs to be known about how to achieve optimal implementation before social influences prevention programs are widely disseminated.

Meaning for Practitioners. Coordinating a school-based smoking prevention program with television programming and with materials sent home to families appears to have some positive effects. However, the innovations do not overcome barriers to program implementation. Schools and teachers working with high-risk students were less likely to request the program than were schools and teachers working with students at lower risk of smoking. Among those requesting the program, a large proportion did not implement it or delivered only some of the sessions. Implementation worked better when done throughout the school rather than in only some classrooms and when the school participated in program evaluation. Even so, fewer than 30 percent of the participating students completed all assessments, and those students were at lower risk of smoking than were evaluation dropouts. Reaching high-risk students with effective smoking prevention programs remains a major challenge.

Reference

Flay, B.R., Hansen, W.B., Johnson, C.A., Collins, L.M., Dent, C.W., Dwyer, K.M., Grossman, L., Hockstein, J.R., Sobel, J.L., Sobol, D.F., Sussman, S., & Ulene, A. (1987). Implementation effectiveness trial of a social influences smoking prevention program using schools and television. *Health Education Research 2(4)*, 385–400.

A Multicommunity Trial for Primary Prevention of Adolescent Drug Abuse: Effects on Drug Use Prevalence

Reviewed by Steve Sussman, Ph.D.

Importance. Project STAR, The Midwestern Prevention Project, is perhaps the single most cited communitywide drug abuse prevention program to date. This project demonstrated what effects a sequential-component, strongly-implemented project can exert on drug abuse.

Intent. This project was funded by grants from the National Institute on Drug Abuse, the Ewing Marion Kauffman Foundation, and Marion Laboratories, Inc., of Kansas City, Missouri. It attempted to discern the effects of community-wide prevention components; that is, components introduced sequentially within a single large community.

Sample and Methods. The entire grade six and grade seven adolescent population of the 15 communities that constitute the Kansas City metropolitan area has been participating in a community-based drug abuse prevention program since 1984. Subjects are 79 percent white, 17 percent black, and 4 percent other. The program originally focused on prevention of cigarette, alcohol and marijuana use. Project components include (1) mass media programming; (2) school-based education; (3) parent education and group organization; (4) community organization; and (5) health policy.

The components were introduced sequentially during a six-year period. The first two years involved implementation of the school-based component with parental involvement in homework and mass media coverage. The school-based program was comprehensive social influences-oriented. Its components included the following:

- Instruction in the social and physical consequences of drug use
- Correction of beliefs about the prevalence of drug use
- Counteraction of adult, media, and community influences on drug use
- Peer and environmental pressure resistance (e.g., awareness of social influences)
- Instruction in and practice of refusal assertion training
- Problem solving for difficult situations involving potential drug use
- Statement of public commitment to avoid drug use

The school-based program consisted of ten skills-building sessions together with ten homework sessions involving interviews and role playing with parents and family members. Mass media coverage involved 30 newspaper articles, 16 one-minute to 10-minute television news or talk show clips and a press conference, and ten radio talk-show interviews that presented the purpose and direction of the project. Effects of the program are measured annually at the schools. Those self-selected or assigned to the immediate or delayed intervention conditions (quasi-experimental design) are compared.

Findings. Drug use was equivalent across conditions at baseline. Analyses of 42 schools (eight schools dropped out; total n=5,008) indicated that the prevalence rates of use for all three drugs were significantly lower at the one-year follow-up for the intervention condition.

Last-month-use comparisons were 17 percent versus 24 percent for cigarette smoking (11 percent versus 16 percent for weekly use), 11 percent versus 16 percent for alcohol use (4 percent versus 7 percent for weekly use), and 7 percent versus 10 percent for marijuana use (4 percent versus 5 percent for weekly use). The net increase in drug use prevalence among intervention schools was half that of the delayed intervention schools.

Limitations, Strengths, and Weaknesses. The use of a quasi-experimental design limited the ability to interpret differences obtained across conditions, although several statistical efforts suggested that the results remained strong, controlling for potential confounding variables. The sequential design limited the ability to discern the relative importance of the five communitywide components.

Meaning for Practitioners. Community support of school-based programming can be completed successfully and may bolster the effects of the school-based program. In particular, on the basis of subsequent work by this research group, a communitywide effort may help institutionalize programming within the community. Program effects may be less likely to dissipate when a community member is followed up through antidrug efforts across contexts and time. Programming is likely to continue to be delivered to subsequent cohorts when the community feels a sense of ownership and loyalty to the program.

Reference

Pentz, M.A., Dwyer, J.H., MacKinnon, D.P., Flay, B.R., Hansen, W.B., Wang, E.Y.I., & Johnson, C.A. (1989). A multicommunity trial for primary prevention of adolescent drug abuse: Effects on drug use prevalence. *Journal of the American Medical Association, 261,* 3259–3266.

Using Mass Media to Prevent Cigarette Smoking Among Adolescent Girls

Summary by Luanne Rohrbach, Ph.D.

Importance. It has often been said that prevention cannot be implemented by schools alone. To be effective, prevention programs in schools must be integrated with policy interventions and other community-based prevention efforts. Communities in California have been working toward that end as they implement the California Tobacco Control Program, which uses funds from the tobacco tax to provide an integrated set of prevention programs in school, community, and mass media settings. This article describes an example of integrated school and community efforts—a smoking prevention intervention that combined mass media strategies with a school-based program.

Intent. The goal of the study was to determine whether more promising long-term prevention outcomes could be obtained if a school smoking prevention program were combined with a youth-focused mass media intervention. A central feature of this study was the development and testing of media segments that were gender-specific and targeted to the development level of youths.

Sample and Methods. The study design included two treatment groups in four small metropolitan areas. In two communities students received a mass media intervention together with a school smoking prevention program over a four-year period. In two other communities matched for demographic and media market characteristics, students received a school program only. Program outcomes were assessed through annual student self-report surveys.

The mass media intervention consisted of 36 television and 17 radio spots 30 to 60 seconds in length. The spots were placed as local paid advertising in the broadcast television, cable TV, and radio stations most commonly watched or listened to by the target population. They were designed to appeal to the target audience and deal with the following educational objectives: (1) encouraging positive views of nonsmoking; (2) encouraging negative views of smoking; (3) building skills for refusing cigarettes; and (4) encouraging the perception that most people their age do not smoke. The authors conducted extensive formative research with youths in the study communities to determine their interests, styles, media habits, the persons they admired, and their reactions to the specific media spots that had been developed. Separate media spots were developed for boys and girls within three developmental periods (prepuberty, puberty, and adolescence). Because of national data at the time that indicated higher rates of smoking among girls than boys, a larger part of the media campaign was designed to appeal to the interests of girls.

The school smoking prevention program for all four communities was implemented in grades five through ten. The curriculum materials were grade-specific. The program was delivered by regular classroom teachers, who received teacher training annually, and required three or four class periods per year over four years.

Findings. The impact of the program was analyzed separately for boys and girls. Results indicated that weekly smoking among girls in the media plus school program communities increased less over a four-year period than among girls in the school-only communities. Among boys changes in weekly smoking followed the same pattern as for girls, and any differences were not statistically significant. Both girls and boys in the media plus school program communities showed lower increases in positive attitudes toward smoking, perceived smoking among peers, and intentions to smoke relative to their counterparts in the school-only communities.

The authors concluded that the results "provide strong, internally consistent evidence for the effectiveness of this mass media strategy for smoking prevention." They suggest that the effectiveness of school smoking prevention programs may be enhanced by youth-targeted mass media interventions.

Limitations, Strengths, and Weaknesses. One of the strengths of the study was an intensive program development process, which enabled the authors to target subgroups of the youth population by gender and developmental level. The findings showed that the mass media intervention, which included more spots targeted towards' girls interests that were broadcast on programs more often seen by girls, had a greater impact on girls than on boys. That result suggests that prevention researchers and practitioners should consider gender issues in the design and implementation of smoking prevention programs. One of the study's limitations was that no information was provided about the content and methods of the school-based prevention program. It is difficult to evaluate the potential effectiveness of the school compo-

nent without information about whether it included effective elements, such as information about social norms and social influences.

Meaning for Practitioners. This article provides further evidence that prevention efforts in school settings will be most effective if integrated with community-based efforts, such as media campaigns. School program planners should try to collaborate with local-level and county-level tobacco coalitions to ensure that tobacco prevention programs in all settings have complementary objectives and strategies. The article also suggests that prevention planners may want to consider using gender-specific tobacco prevention approaches or at least make a concerted effort to deal with gender issues in prevention programs.

Reference

Worden, J.K., Flynn, B.S., Solomon, L.J., Secker-Walker, R.H., Badger, M.S., & Carpenter, J.H. (1996). Using mass media to prevent cigarette smoking among adolescent girls. *Health Education Quarterly, 23(4)*, 453–468.

The Effects of Community Policies to Reduce Youth Access to Tobacco

Summary by John Elder, Ph.D.

Importance. Previous studies have indicated that changing merchants' practices of selling tobacco to underage youth can be accomplished only through the enforcement of existing policies. In January 1996 the U.S. Department of Health and Human Services implemented the Synar Amendment, which required each state receiving block grant funding for substance abuse prevention to adopt and enforce age-of-sale laws regulating tobacco and show reductions in tobacco sales to minors. Given the potential impact of such enforcement and subsequent intensive activity nationwide, policy-related interventions for reducing smoking among youths have tremendous potential, especially considering the difficulty of developing and implementing broad scale peer pressure resistance or other interventions tied to health promotion.

Intent. The Tobacco Policy Options for Prevention (TPOP) project was a randomized community trial designed to test the effects of changes in community-based policies to limit the access of youths to tobacco. The researchers hypothesized that local policy changes brought about by communities themselves through a community mobilization effort would reduce adolescent tobacco use through reductions in commercial availability.

Sample and Methods. Fourteen communities in Minnesota were randomly assigned to conditions. The communities selected had 90 or more students in each of grades eight, nine, and ten. Eight school districts refused the invitation to participate because the study was going to use a survey in the schools to evaluate their efforts and the districts were already conducting several surveys. The communities ranged in size from 3,000 to 13,000 residents in rural areas. Communities were stratified by population and baseline student smoking rates before randomization.

The goals of the intervention were to reduce tobacco access by youths. The intervention used a direct action community organizing model that mobilized large numbers of people and encouraged individual adults to take active roles as citizens and hold leaders accountable for public decisions.

Half-time community organizers were employed in each community. They recruited a team of eight to 15 community members to lead the policy change and enforcement effort. Each team planned and carried out activities to raise community awareness about the access and use of tobacco by youths and to develop broad support for policy changes. Teams conducted group presentations, letter and petition drives, media campaigns, and tobacco purchase attempts with underage youth. The same teams drafted model ordinances based on those written in other communities and presented the ordinances to their city councils.

Surveys were administered before and after the intervention, a three-year period. Further, confederates made two purchase attempts at each retail outlet in the community. The outcome measures were centered on smoking behavior among the adolescents filling out the surveys and reports on how cigarettes were accessed if the adolescents had smoked recently. Research staff also observed whether purchase attempts were successful.

Findings. All intervention communities charged a licensing fee to underwrite enforcement efforts. Vendor penalties were written into these policies, and four of the seven communities also penalized clerks for making sales. Vending machines were banned in each of the intervention communities, and self-service displays were banned in five of the seven. Compliance checks were institutionalized in six of the seven communities to verify that these new ordinances were being obeyed. A penalty for vendors included warnings in three of the communities and fines in the other four.

Daily, weekly, and monthly smoking climbed sharply among adolescents in a controlled community over the course of the study but much less in the intervention communities. The reduction, associated with a perceived difficulty in obtaining cigarettes from commercial sources, validated the results. However, no difference existed between the intervention and the controlled communities as to perceived availability from social sources.

Limitations, Strengths, and Weaknesses. The primary limitation of this study was that it was carried out in a fairly rural, homogeneously populated part of the country, rural Minnesota. The generalizability of these communities to others, especially such as those in California, may be limited. However, the intervention was carried out through local mobilization rather than by outsiders. Finally, the intervention most likely affected all adolescents in the community, not just those who participated in smoking prevention programs.

Implications for Practice. Policy-related interventions have to be considered as part of an overall approach to reducing teen smoking. Although entire populations of adolescents may be exposed to a policy, only limited numbers may be exposed to classroom and other prevention efforts. Policy interventions must be proven to be effective, however, before being supported by schools. This grassroots approach by Forster shows us how schools can become involved with responsible community agencies and citizens to design and implement access reduction efforts, thereby greatly enhancing approaches to classroom intervention.

Reference

Forster, J., Murray, D.M., Wolfson, M., Blaine, T.M., Wagenaar, A.C., & Hennrikus, D. J. (1998). The effects of community policies to reduce youth access to tobacco. *American Journal of Public Health, 88(8),* 1193–1197.

Evaluation of an Enforcement Program to Reduce Tobacco Sales to Minors

Summary by John Elder, Ph.D.

Importance. Although all states have laws prohibiting the sale of tobacco products to young people, the public perception is that it is easy for minors to purchase cigarettes. Enforcement efforts are not widespread because of limited funding, manpower, and commitment. Although compliance checks of retail outlets are generally considered crucial to policy adherence few studies have evaluated such checks.

Intent. K.M. Cummings and his colleagues conducted an experiment with respect to an active enforcement program in Erie County, New York. Specific questions tested related to (1) the effectiveness of an active enforcement program to get retailers to request proof of age from underage customers; and (2) the effects of varying the frequency of checking customers for age identification.

Sample and Methods. This study was conducted in six pairs of communities between 1994 and 1995. The communities were matched on the basis of socioeconomic characteristics and the number of tobacco resale outlets. One community in each pair was randomly assigned to active enforcement or control.

Any retailer caught selling tobacco to a minor during an enforcement check was reported to the health department and fined. Compliance checks were carried out by 23 adolescents fifteen to seventeen years of age under the direction of the research staff. Checks were done on the weekend or during the week after school hours. Minors were told to ask the clerk for a pack of cigarettes. If the clerk asked the minor's age, he or she responded truthfully. If the clerk rang up the sale without asking for age, the minor told the clerk that he or she did not have the money to pay for the cigarettes and left the store. The compliance checks took place during baseline and at the end of the intervention.

Findings. Retailers' compliance with the law increased from 35 percent in 1994 to 73 percent in 1995. However, equivalent changes were roughly the same in the enforcement and nonenforcement communities. Positive change such as this in the control as well as the intervention communities could be due to a variety of problems, including *contamination* (word spreading from the intervention to the control community) and/or *secular trends* (natural changes that were in motion anyway, without regard to the intervention).

Limitations, Strengths, and Weaknesses. Active compliance checking of stores as a strategy to reduce illegal tobacco sales apparently increases retailers' perceptions that such checks may result in punishment. However, this study showed no differences between the intervention and the control communities. It is possible that, given the increase in overall awareness of the dangers of minors accessing tobacco during this time period and the proximity of intervention control communities, control-area retailers may have gotten a similar message.

Implications for Practice. Active compliance checks of stores such as those developed by Dr. Cummings may be a very effective tool for reducing youth access to tobacco. If given proper community support and complemented by an effective school-based program, such policy

interventions can have a powerful effect in reducing tobacco use despite the modest results of the present study.

Reference

Cummings, K.M., Hyland, A., Saunders-Martin, T., Peria, J., Coppola, P.R., & Pechacek, T.F. (1998). Evaluation of an enforcement program to reduce tobacco sales to minors. *American Journal of Public Health, 88(6),* 932–935

The Influence of Three Mass Media Campaigns on Variables Related to Adolescent Cigarette Smoking: Results of a Field Experience

Summary by Carol D'Onofrio, Ph.D.

Importance. As with policy interventions, mass media approaches have the potential to reach large numbers of individuals without the logistical problems associated with face-to-face education in forums such as classrooms. However, only a limited number of studies have evaluated the influence of mass media on changing health behavior. And of those that have, fairly modest effects have been shown and have been targeted primarily to adult audiences.

Intent. This study sought to evaluate the impact of mass media campaigns on the prevention of adolescent cigarette smoking. The campaigns featured radio and television messages emphasizing the expected consequences of smoking and the need for peers to talk to one another and encourage one another not to smoke.

Sample and Methods. The study was carried out in ten Standard Metropolitan Statistical Areas (SMSAs) in the southeastern United States. SMSAs with overlapping broadcast areas were excluded to prevent contamination of control areas via the media intervention. Cluster sampling procedures identified 2,534 adolescents eligible for study, and 83 percent of those eligible agreed to participate. Of those who agreed, 80 percent were available for both the pretest and the posttest.

Follow-up measures were carried out approximately two years after the intervention began and two to eight months after the final mass mailing to promote peer involvement. The three mass media campaigns included 30-second radio messages that focused on seven expected consequences of smoking related to whether young people become regular smokers. A similar 60 second radio message invited students ages twelve through fifteen to enter the I Won't Smoke Sweepstakes. And a mailing campaign asked registrants for the sweepstakes to encourage friends not to smoke as well.

Findings. The radio campaign had a modest influence on the expected consequences of smoking and the approval of smoking by friends. Radio spots were deemed as effective as television-based interventions. Although both showed an approximate 4 percent difference in smoking "utility" as perceived by the adolescents, no effect was noted for reducing the onset of smoking.

Limitations, Strengths, and Weaknesses. This study gives little support to a mass media-only approach to smoking prevention. The

authors note that the results may have been stronger had there been a complement of school-based or other (e.g., policy) interventions. No cost figures were provided. However, it can be assumed that although the purchase of media time was more feasible than door-to-door or classroom campaigns, the media expense was also fairly high.

Implications for Practice. Media-based approaches can enhance school-based interventions for smoking prevention and cessation among youths. Mass media have the added advantage of being able to reach large numbers of children with fewer resources than can large-scale face-to-face approaches. However, the mass media are not a panacea for public health promotion. They may be considered primarily to reinforce classroom messages or promote acceptance of aggressive policy interventions.

Reference

Bauman, K.E., LaPrelle, J., Brown, J.D., Koch, G.G., and Padgett, C.A. (1991). The influence of three mass media campaigns on variables related to adolescent cigarette smoking: Results of a field experience. A*merican Journal of Public Health, 81*(5), 597–604.

Youth Access to Tobacco: The Effects of Age, Gender, Vending Machine Locks, and "It's the Law" Programs

Summary by John Elder, Ph.D.

Importance. Policy-related interventions have a substantial potential for reducing teenage smoking. Entire populations of adolescents may be exposed to a policy, but only limited numbers may be exposed to classroom and other prevention efforts. However, many policies are already on the books, and others are being developed with little or no data to support whether they should be used. Some of those policies have included merchant education programs and have even been sponsored by the tobacco industry. Clearly, all policies, especially those supported by the tobacco industry, need empirical support to help determine whether they should be continued.

Intent. In this article by DiFranza and others, the researchers evaluated the "It's the Law" programs, sponsored by Philip Morris and R.J. Reynolds, in which vendors are supplied with educational materials and window stickers to indicate that underage adolescents should not attempt to purchase cigarettes at participating stores. DiFranza and his colleagues also evaluated electronic remote-control lockout devices whereby the purchaser needs to have the vendor electronically open a machine before the purchaser can use it. The current study also evaluated the effectiveness of those devices.

Sample and Methods. The researchers used 480 different attempts to purchase cigarettes to assess the effects of the "It's the Law" programs and vending machine lockouts on purchases by youths of different ages and genders. Six pairs (one boy and one girl each) aged twelve, thirteen, fourteen, fifteen, sixteen, and seventeen were recruited to attempt to purchase tobacco. If tobacco was sold over the counter, the youths were instructed to ask the clerk for a pack of cigarettes. In a case of vending machines without locking devices, the youth were instructed

to walk up to the machine and attempt to make a purchase. If the vending machine was locked, the youth was instructed to ask an employee to unlock the machine. Each youth made one attempt to purchase from each of the 40 merchants on a list. Each vendor was visited by three boys and three girls.

Findings. The youths were successful in 33 percent of their attempts to purchase tobacco. Twenty-eight percent of the vendors never sold tobacco, 23 percent sold once, 16 percent sold twice, 9 percent sold three times, 13 percent sold four times, 6 percent sold five times, and 6 percent sold each time. Males were successful 28 percent of the time, and females were successful 37 percent of the time. Youths under sixteen were successful 25 percent of the time, and those sixteen or older were successful 48 percent of the time. Vending machine purchases were easier, with 42 percent success, versus 23 percent success for over-the-counter purchases. No difference existed between merchants as to participation in the "It's the Law" programs.

Limitations, Strengths, and Weaknesses. This study provided a very objective assessment of the effects of participation in "It's The Law" programs and vending machine control as to access by youths to commercial tobacco. It clearly showed that no difference existed as to participation in this program, indicating that public health interventions should not rely on tobacco company concessions in this area. Clearly, more stringent efforts are needed, such as those developed by Forster and others. The authors make an interesting note that the presence of vending machines especially showed an ambivalent attitude toward tobacco sales in this society, given that alcohol is not allowed to be sold via vending machines but cigarettes are. However, as vending machines disappear from the California scene, that issue will become less relevant. The authors further state that tobacco laws must be written to require proof of age because merchants may not be very able to judge the age of the adolescent attempting to make the purchase. Because this is not an intervention study, it does not necessarily provide a guide on how to develop an intervention. Moreover, it is unknown whether the clerks behind the counters were the actual participants in "It's the Law" programs or if the participants were only the owners of the retail establishments.

Implications for Practice. Policy-related interventions have to be considered as part of an overall approach to reducing teen smoking. Entire populations of adolescents may be exposed to a policy, but only limited numbers may be exposed to classroom and other prevention efforts. Policy interventions must be proven to be effective, however, before being supported by schools. Schools should be alert to local policies that determine environmental issues, such as youth access to tobacco products.

Reference

DiFranza, J.R., Savageau, J.A., & Aisquith, B.F. (1996). Youth access to tobacco: The effects of age, gender, vending machine locks, and "It's the Law" programs. *American Journal of Public Health, 86*(2), 221–224.

Appendixes

THE APPENDIXES AT A GLANCE

A. Tobacco Use Prevention Resources

B. Local Lead Agencies

C. Legislation

D. Summary of Findings About Local TUPE Programs from the Independent Evaluation Consortium

APPENDIX A • TOBACCO USE PREVENTION RESOURCES

The following resources can help you identify effective tobacco use prevention strategies and programs.

California Healthy Kids Program Dissemination Center

Los Angeles County Office of Education
9300 Imperial Highway
Downey, CA 90242-2890
Toll-free (877) 401-5001
(562) 922-6682
Fax: (562) 401-5596
e-mail: chkdis@lacoe.edu

Located at the Center for Health Education, Los Angeles County Office of Education, the California Healthy Kids Program Dissemination Center (CHKPDC) is a statewide dissemination service for TUPE Innovative Programs, TUPE 4–12 Model Programs, and SDFSC K–12 Model Programs.

The CHKPDC provides school districts and county offices of education with information related to ATODV prevention programs currently in use by selected school districts in California. The Center also coordinates training and the technical assistance necessary to adopt and successfully implement these programs.

A CHKPDC website is presently under construction. The web site will include detailed information about the various TUPE Innovative Programs, TUPE Grades 4–12 Model Programs, and SDFSC K–12 Model Programs. In addition, a list of currently scheduled project showcase meetings and implementation workshops will be provided. The web site will also have a database of various ATODV programs and consultants, linked to related web sites, and the capability to allow the web site visitor to order materials and/or register for training.

California Healthy Kids Resource Center

Alameda County Office of Education
313 West Winton Avenue
Hayward, CA 94544
(510) 670-4581
Fax (510) 670-4582
http://www.californiahealthykids.org

The California Healthy Kids Resource Center (CHKRC) provides high-quality resources in health education, including tobacco use prevention education and drug and violence prevention, to California teachers, administrators, other professionals, parents, and community personnel who work with students in preschool through grade twelve.

Curricula, videos, laser disks, displays, teacher reference, students' literature books, program development, research, and professional training materials are available within California for free loan from the Center. Materials have been reviewed and recommended by the Center's Materials Review Board, consisting of teachers and health professionals. Materials can

be borrowed for four weeks. The Center pays for shipment anywhere in California; borrowers pay return shipment.

Materials can be searched and ordered electronically on the Center's online catalog at http://www.californiahealthykids.org. The web site also provides a searchable database of school health laws; research summaries; links to reviewed health education sites; and course materials for university faculty who provide teachers with professional development in health education.

California Healthy Kids Survey

WestEd
4665 Lampson Avenue
Los Alamitos, CA 90720
Toll-free (888) 841-7536
(562) 598-7661
Fax (562) 985-9635
http://www.wested.org/hks/

The California Healthy Kids Survey (CHKS) is a comprehensive youth health and risk behavior data collection support system for grades five, seven, nine, and eleven. The secondary school survey consists of a core module and optional supplemental modules. It is particularly designed to meet Safe and Drug-Free Schools and Communities Act (SDFSCA) reporting requirements, and is the only module required by CDE for participating LEAs. The core module contains items relating to alcohol, tobacco, and other drug use; school violence; and physical health. Optional supplemental modules include:

- More detailed information on tobacco use and program assessment
- More detailed information on alcohol and other drugs and violence
- Diet (nutrition), physical activity, and general health
- Sexual behavior, pregnancy, and HIV risk
- Resilience assessment

The elementary school survey is a single (nonmodular) assessment intended for use in grade five; it is also appropriate for grades four through six. The instrument covers:

- Lifetime use of alcohol, tobacco, and other drugs
- Harassment and bullying at school, carrying weapons on campus, and perceived school safety
- Physical activity, diet, and body image
- Health-related out-of-school activities
- Exposure to prevention messages about sex
- Assets

The CHKS provides local, state, and national comparisons. Survey questions are drawn primarily from the national Youth Risk Behavior Survey and the California Student Substance Use Survey.

The CHKS is a full-service survey support system. On-call project advisors will help you:

- Plan the survey.
- Select your sample.
- Obtain support and parent consent.
- Administer the survey.
- Process the survey forms and generate reports.
- Interpret and disseminate the results.

- Use the results to improve health education and prevention programs.
- Customize your survey (e.g., asking program-specific questions, providing school-level data).

The CHKS provides detailed, user-friendly reports and a wide range of support materials, such as:

- A survey guidebook
- An explanation of each item's significance in the key findings and technical reports
- A web site
- A listserv (an e-mail discussion group)
- A newsletter

Smoker's Helpline

1-800-7-NO-BUTTS or 1-800-844-CHEW

The California Smokers' Helpline is a **free** statewide resource for teens who are thinking about quitting tobacco (smoking or chewing). This unique research-based service, operated through University of California, San Diego, since 1992, has served over 100,000 Californians of all ages. Service options include county resource lists, self-help materials, and telephone counseling. Evaluation has shown that the California Smokers' Helpline is an effective program for smoking cessation. Services are available in English, Spanish, Chinese (Mandarin and Cantonese), Korean, Vietnamese, and TDD/TTY for the hearing impaired.

Tobacco Education Clearinghouse of California (TECC)

ETR Associates
P.O. Box 1830
Santa Cruz, CA 95081-1830
Toll-free (800) 258-9090
(408) 438-4822
Fax (408) 438-3618

The Tobacco Education Clearinghouse of California (TECC) operates a bulk distribution service for the dissemination of low- or no- cost educational and promotional materials primarily to projects funded by the Tobacco Control Section (TCS) of the California Department of Health Services. In addition, materials are disseminated to schools, health departments, and community-based agencies nationwide. The TECC web site provides current data and information about tobacco use in California.

TECC services available to TCS-funded projects (including the local lead agencies) include the provision of technical assistance and training on materials selection, use, development, and distribution; identification of existing and needed tobacco education resources and materials; provision of a comprehensive tobacco education resource collection; and reference and referral services, including literature/database searches.

National Clearinghouse for Alcohol and Drug Information (NCADI)

P.O. Box 2345
Rockville, MD 20847-2345
(800) 729-6686
Fax (301) 468-6433
e-mail: sysop@prevline.health.org
http://www.health.org

The National Clearinghouse for Alcohol and Drug Information (NCADI) maintains an extensive database of research studies and reports, as well as a database of prevention materials. These address alcohol, tobacco, and other drugs. Interested parties can search these databases directly through the Internet or request that a search be done.

NCADI also publishes *Prevention Pipeline,* a quarterly magazine that reports on new approaches in prevention and includes summaries of recent research. Contact NCADI at the address above for information on subscribing to *Prevention Pipeline.*

Center for the Application of Prevention Technologies

Western Center for the Application
of Prevention Technologies
Mail Stop 279
University of Nevada, Reno
Reno, NV 89557-0202
(888) 734-7476 (toll free)
Fax: (775) 784-1840
http://www.unr.edu/westcapt

The Western Center for the Application of Prevention Technologies (WestCAPT) is one of five regional centers funded by the Center for Substance Abuse Prevention. The purpose of WestCAPT is to assist states, jurisdictions, and community-based prevention programs in the Western Region, including California, to apply scientifically defensible strategies in their efforts to prevent substance abuse. A network of local and regional technical assistance experts, skill development activities, innovative uses of electronic media, a resource repository, and production services is available.

APPENDIX B • LOCAL LEAD AGENCIES

Local lead agencies (LLAs) develop their programs around three priorities: (1) eliminating exposure to secondhand tobacco smoke; (2) reducing availability of tobacco to youths; and (3) countering protobacco influences, such as advertising, promotion, and sponsorship. There are nine core elements that LLAs are expected to undertake to build an effective tobacco control program. They are:

1. **Create and maintain a community coalition.** Coalition members are local community organizations with special expertise in tobacco control and representatives of high-risk populations. Such organizations may include schools. Coalition members should be involved in strategic planning and program implementation and as media spokespersons.
2. **Develop and implement a comprehensive tobacco control plan with measurable objectives and evaluation.**
3. **Conduct a comprehensive community norm-based tobacco control program.** Examples of strategies to change norms include advocating new tobacco control policies or creating support for implementation and enforcement of new and existing local and state tobacco control laws.
4. **Coordinate services.** The LLAs are to coordinate local services and statewide initiatives between government agencies, schools, community-based organizations, and others involved in tobacco control activities within the health jurisdiction.
5. **Build the capacity of communities and agencies to address tobacco control issues.** The LLAs are to provide local groups with technical assistance and opportunities, which may include providing leadership opportunities for adults and youths to plan and implement tobacco control activities.
6. **Mobilize the community to support educational policies and enforcement activities.** The LLAs are to document and publicize the presence of local tobacco problems and/or demonstrate support for policies and activities.
7. **Strategically use paid media and public relations.**
8. **Actively promote statewide toll-free numbers**, such as the California Smokers' and Chewers' Helpline.
9. **Conduct an evaluation** of local program effectiveness.

Local Lead Agencies

(as of January 2000)[7]

Alameda County Health Care Services
Sylvia Jimenez
510-628-7815

Alpine County Health Department
Kristi Hamilton
530-694-2771

Amador County Public Health Department
Norma King
209-223-6638

[7] The current contact for local lead agencies can be provided by the Department of Health Services, Tobacco Control Section, at (916) 327-5425.

City of Berkeley Health Department
Marcia Brown-Machen
510-665-6808

Butte County Department of Public Health
Regina Ellena
530-538-2075

Calaveras County Health Department
Brenda Foster
209-736-0687

Colusa County Health and Human Services Department
Lorna Smallwood
530-458-0488

Contra Costa County Prevention Program
Denice Dennis
925-313-6214

Del Norte County Health Department
Steve Brohmer
707-464-3191

El Dorado County Health Department
Christy Derdowski
530-621-6142

Fresno County Department of Health
Gloria Garcia
559-445-3276

Glenn County Health Services
Sharon Gibbs
530-934-6506

Humboldt County Public Health Department
Lin Glen
707-268-2132

County of Imperial Health Department
Rosie Nava
760-335-3466

Inyo County Health Department
Jean Dickinson
760-873-6533

Kern County Department of Public Health
Leslie Fiedler
661-868-0489

Kings County Department of Public Health
Julie VanOrden
559-584-1401

Lake County Health Department
Sandy Boom
707-263-2241

Lassen County Health Department
Laura Roberts
530-257-9600

City of Long Beach Deptartment of Health & Human Services
Theresa Marino
562-570-8508

Los Angeles County Department of Health Services
Cynthia Harding
213-351-7731

Madera County Department of Public Health
Dale Freewald
559-675-7627

Marin County Tobacco Education Program
Elizabeth Emerson
415-499-4216

Mariposa County Health Department
Carol Bryant
209-966-3689

Mendocino County Public Health Department
Jane Piper
707-463-4133

Merced County Department of Public Health
Rob Jarvis
209-381-1277

Modoc County Health Department
Karen Kahusi
530-233-6353

Mono County Health Department
Nancy Mahannah
760-934-7059

Monterey County Health Department
Janine Robinette
831-647-7910

Napa County Health & Human Services Agency
Randolph Snowden
707-253-4073

Nevada County Health Department
Teresa Webb
530-265-1490

Orange County Health Care Agency
Marilyn Pritchard
714-834-3547

City of Pasadena Health Department
Statice Wilmore
626-744-6051

Placer County Department of Health
Alan Hayashi
530-889-7216

Plumas County Health Department
Gloria Wyeth
530-283-6362

Riverside Department of Health Services
James Schnepper
909-358-4935

Sacramento County Health Department
Emily Reynolds
916-875-5869

San Benito County Health Department
Samela Perez
831-636-4011

San Bernardino County Public Health Department
Michele Jacknik
909-388-4222

San Diego County Health & Human Services
Carol St. Cook
619-515-6505

San Francisco Department of Public Health
Alyonik Hrushow
415-554-9151

San Joaquin County Health Department
Victor Olano
209-468-3415

San Luis Obispo County Health Department
Susan Hughes
805-781-5564

San Mateo County Department of Health Services
Edith Cabuslay
650-573-2496

Santa Barbara County Health Care Services
Dawn Dunn
805-681-5407

Santa Clara County Health Department
Dena Dickenson
408-299-2566

Santa Cruz County Health Services Agency
Celia Barry
831-454-4318

Shasta County Department of Public Health
Beth Thompson
530-245-6857

Sierra County Health Department
Don Yegge
530-993-6720

Siskiyou County Health Department
John Young
530-841-4068

Solano County Health Department
Felicia Flores-Workman
707-553-5890

Sonoma County Public Health Department
Steven DiVerde
707-525-6515

Stanislaus County Health Department
Heather Gruenig Duvall
209-558-6053

Sutter County Health Department
Steven Jensen
530-822-7215

Tehama County Health Agency
Sue Le Vier
530-527-6824

Trinity County Health Department
Crystal Marie
530-623-1450

Tulare County Health Department
Valletta Lochridge
559-685-2525

Tuolumne County Health Department
Jill Davis
209-533-7408

Ventura County Public Health Services
Eileen Gordon
805-677-5266

Yolo County Health Department
Cheryl Boney
530-666-8694

Yuba County Health Services Department
Sunshine Farrow
530-741-6366

APPENDIX C • LEGISLATION

HEALTH AND SAFETY CODE SECTION 104350-104480[8]

104350. (a) The Legislature finds and declares as follows:

(1) Smoking is the single most important source of preventable disease and premature death in California.

(2) More than 30 percent of coronary heart disease cases are attributable to cigarette smoking.

(3) More than 30 percent of all annual cancer deaths are attributable to smoking, with lung cancer now the leading cancer killer in women as well as men.

(4) Smoking is responsible for one-quarter of all deaths caused by fire.

(5) Involuntary smoking is a cause of disease, including lung cancer, in healthy nonsmokers.

(6) More than 80 percent of chronic obstructive lung diseases including emphysema and chronic bronchitis are attributable to smoking.

(7) Tobacco-related disease places a tremendous financial burden upon the persons with the disease, their families, the health care delivery system, and society as a whole. California spends five billion six hundred million dollars ($5,600,000,000) a year in direct and indirect costs on smoking-related illnesses.

(8) The elimination of smoking is the number one weapon against four of the five leading causes of death in California.

(9) Keeping children and young adults from beginning to use tobacco and encouraging all persons to quit tobacco use shall be the highest priority in disease prevention for the State of California. More than 60 percent of all smokers begin smoking by the age of 14, and 90 percent begin by the age of 19.

(10) The State of California shall play a leading role in promoting a smoke-free society by the year 2000 and thereby supporting the National Health Status Objectives for the year 2000 relating to smoking and tobacco use.

(b) It is the intent of the Legislature, therefore, to require the department, local lead agencies, and the State Department of Education to cooperatively and individually conduct activities directed at the prevention of tobacco use and tobacco-related diseases. The campaign shall focus on health promotion, disease prevention, and risk reduction, utilizing a "wellness" perspective that encourages self-esteem and positive decisionmaking techniques.

It is also the intent of the Legislature that, for the purpose of program planning and program evaluation, the department provide data and technical information on tobacco-related diseases, tobacco use and its consequences, and effective personal and community interventions to prevent tobacco use.

104355. The following definitions shall apply to this article:

(a) "Grantee" means any public or private nonprofit entity approved by the department or

[8] Sections of the legislation that apply to the California Department of Education appear in boldface.

the State Department of Education to receive funds pursuant to this article. Grantees may include, but are not limited to, hospitals, community clinics, local health departments, voluntary health organizations, Indian tribes, colleges and universities, county offices of education, school districts, health maintenance organizations, professional health associations, and professional health education associations.

(b) "Tobacco-related disease" means any of the following:

(1) Coronary heart disease.

(2) Cerebrovascular disease.

(3) Cancer, including cancers of the lung, larynx, esophagus, bladder, pancreas, and mouth.

(4) Chronic obstructive lung diseases, including emphysema, chronic bronchitis, asthma, and related lung disorders.

(5) Conditions where smoking or tobacco use has been determined to be a risk factor for excess disability and illness, including burns due to smoking-related fires.

(c) "Tobacco use" means the consumption of tobacco products by burning, chewing, inhalation, or other forms of ingestion.

(d) "Voluntary health organization" means a nonprofit organization organized for purposes related to health, including, but not limited to, an organization devoted to the research of cancer, heart disease, or diseases of the lung.

(e) "Committee" means the Tobacco Education Oversight Committee.

(f) "The department" means the State Department of Health Services.

(g) "Service provider" means an agency or organization that enters into an agreement with the local lead agency or state department to provide services under this article.

(h) "Direct services" means the provision of preventive health education services to targeted populations.

(i) "Local plan" means a plan submitted pursuant to Section 104400.

(j) "Preventive health education against tobacco use" means programs of instruction intended to dissuade individuals from beginning to smoke, to encourage smoking cessation, or to provide information on the health effects of tobacco on the user, children, and nonsmokers. These programs may include a focus on health promotion, disease prevention, and risk reduction, utilizing a "wellness perspective" that encourages self-esteem and positive decisionmaking techniques.

(k) "Targeted populations" means those population groups specified in Sections 104360 and 104385.

(l) "Local lead agencies" means those agencies designated as local lead agencies pursuant to Section 104400.

104360. The following target populations, at a minimum, shall be the focus of the campaign implemented pursuant to this article:

(a) School-age youth and their families in the schools and in the community.

(b) Black, Hispanic, Native American, and Asian-Pacific American populations, pregnant women, and current smokers.

104365. (a) There is hereby created the Tobacco Education and Research Oversight Committee in state government that shall advise the department and the State Department of Education with respect to policy development,

integration, and evaluation of tobacco education programs funded under this article, and for development of a master plan for the future implementation of tobacco education programs.

(b) The Tobacco Education Oversight Committee shall be composed of 13 members to be appointed as follows:

(1) Two members representing volunteer health organizations dedicated to the reduction of tobacco use appointed by the Speaker of the Assembly.

(2) One member representing an organization that represents health care employees appointed by the Senate Rules Committee.

(3) One member of a professional education association, such as an association of teachers, appointed by the Senate Rules Committee.

(4) One member of a university facility with expertise in programs intended to reduce tobacco use appointed by the Governor.

(5) Two representatives of a target population group appointed by the Governor.

(6) One representative of the department appointed by the Governor.

(7) One representative of the State Department of Education appointed by the Superintendent of Public Instruction.

(8) One member representing the interests of the general public appointed by the Governor.

(9) One representative of local health departments appointed by the Governor.

(10) One member representing a volunteer health organization dedicated to the reduction of tobacco associated injury appointed by the Governor.

(11) One member from the Tobacco Related Disease Research Program appointed by the Governor.

(c) Members shall serve for a term of two years, renewable at the option of the appointing authority. The initial appointments of members shall be for two or three years, to be drawn by random lot at the first meeting. The committee shall be staffed by the department's coordinator of the program created pursuant to Section 104375.

(d) The committee shall meet as often as it deems necessary, but shall meet not less than four times per year.

(e) The members of the committee shall serve without compensation, but shall be reimbursed for necessary travel expenses incurred in the performance of the duties of the committee.

104370. The committee shall be advisory to the department, the University of California, and State Department of Education for the following purposes:

(a) Evaluation of research, school- and community-based programs funded under this article as necessary in order to assess the overall effectiveness of efforts made by the programs to reduce the use of tobacco products. In order to evaluate tobacco education, research, and cessation programs, the committee shall seek the cooperation and assistance of the department, the State Department of Education, county offices of education, local lead agencies, administrative representatives, target populations, school officials, and researchers. A principal measurement of effectiveness shall be reduction of smoking rates among a given target population.

(b) Facilitation of programs directed at reducing and eliminating tobacco use that are operated jointly by more than one agency or entity. The committee shall propose strategies for the coordination of proposed programs administered by the department, the University of California, and the State Department of

Education in order to avoid the duplication of services and to maximize the public benefit of the programs.

(c) Make recommendations to the department, the University of California, and the State Department of Education regarding the most appropriate criteria for the selection of, standards of the operation of, and the types of programs to be funded under this article.

(d) Reporting to the Legislature on or before January 1 of each year on the number and amount of tobacco education programs funded by the Health Education Account, created by Section 30122 of the Revenue and Taxation Code, the amount of money in the account, any moneys previously appropriated to the department, the University of California, and the State Department of Education but unspent by the departments, a description and assessment of all programs funded under this article, and recommendations for any necessary policy changes or improvements for tobacco education programs.

(e) Ensuring that the most current research findings regarding tobacco use prevention are applied in designing the tobacco education programs administered by the department and the State Department of Education. The department and the State Department of Education shall apply the most current findings and recommendations of research including research funded by the Research Account of the Cigarette and Tobacco Products Surtax Fund created by Section 30122 of the Revenue and Taxation Code.

(f) Based on the results of programs supported by this article and any other proven methodologies available to the committee, produce a comprehensive master plan for implementing tobacco education programs throughout this state for the prevention and cessation of tobacco use. The master plan shall include implementation strategies for each target population specified in Section 104360 for programs throughout this state. The Tobacco Education and Research Oversight Committee shall submit the master plan to the Legislature on or before January 1, 1991, and shall be updated every two years thereafter until a progress report is completed on January 15, 2000. The master plan and its revisions shall include recommendations on administrative arrangements, funding priorities, integration and coordination of approaches by the department, the University of California, and the State Department of Education and their support systems, as well as progress reports relating to each target population. The master plan shall establish a goal of achieving a 75-percent reduction in tobacco consumption in California by the year 1999.

104375. (a) To prevent tobacco-related diseases and diminish tobacco use, the department shall establish within the department a program on tobacco use and health to reduce tobacco use in California by conducting health education interventions and behavior change programs at the state level, in the community, and other nonschool settings.

(b) The department shall conduct statewide surveillance of tobacco-related behaviors, knowledge, and attitudes and evaluate the department's local and state tobacco control programs under this article. At a minimum, these evaluation activities shall utilize scientifically appropriate methods for monitoring the annual progress of the program in reducing the adult smoking prevalence from the 1993 benchmark rate of 20 percent and reducing cigarette consumption from the 1993 per capita benchmark rate of 4.84 packs per quarter. These surveillance and evaluation activities may include, but need not be limited to, the following:

(1) Be based on sound evaluation principles and include, to the extent feasible, elements of controlled experimental methods.

(2) Monitor the overall statewide effect of health education efforts on smoking and tobacco use, and, to the extent feasible, the resulting effects on health.

(3) Monitor the effect of the programs on individual target populations identified by this article or designated by the department as meriting special attention.

(4) Provide an evaluation of the comparative effectiveness of individual program designs that shall be used in funding decisions and program modifications.

(5) Incorporate other aspects into the evaluation that have been identified by the department in consultation with state and local advisory groups, local lead agencies, and other interested parties.

(6) Funds permitting, utilize a sample size that is adequate to produce county, regional, and ethnic specific estimates.

(c) The department shall produce or contract for, and update biennially, a description of programs determined to be effective in reducing smoking and tobacco use, and the identification of portions of target populations that need information regarding the hazards of tobacco use. The department, in consultation with the State Department of Education, shall conduct, or contract for an evaluation of the effectiveness of the tobacco use prevention and education program as implemented in the public schools that receive funding for tobacco use prevention education pursuant to Sections 104420, 104425, 104435, and 104445. The purpose of the evaluation shall be to direct the most efficient allocation of resources appropriated under this article to accomplish the maximum prevention and reduction of tobacco use. The comprehensive evaluation shall be designed to measure the extent to which programs funded pursuant to this article promote the goals identified in this article and in Proposition 99 of the November 1988 general election. All information resulting from the evaluation shall be made available to the State Department of Education for purposes of improving its ability to implement and oversee the provision of effective tobacco use prevention education programs. The evaluator shall:

(1) Assess the effectiveness of tobacco use prevention education programs designed to prevent and reduce tobacco use among students. In support of this primary goal, the evaluation shall:

(A) Report findings on the effectiveness of programs and strategies currently in use in California schools that prevent and reduce tobacco use.

(B) Select a research strategy that will identify formal and informal factors that might account for differences in tobacco use by students, including, but not limited to, formal education prevention strategies.

(C) Incorporate in the evaluation quantitative as well as qualitative data. The data shall include, but are not limited to:

(i) Student data, including attitudes, knowledge, and behavior based upon a statistically valid random sample of school districts and students.

(ii) Curriculum data, including diversity of curricula, evidence of appropriateness to grade level, gender, and ethnicity, and the extent of the inclusion of prevention approaches identified in research literature.

(iii) School data, including intensity of emphasis on tobacco use prevention and evidence of counseling or treatment referral systems.

(iv) Community data, including the existence of parent networks and the participation of community service organizations including local lead agencies, in prevention.

(2) Develop and test a regular tobacco use prevention and education information system for use by the State Department of Education, using the resulting information to establish the extent of implementation of tobacco use prevention education programs statewide and the degree of student exposure to these programs at selected grade levels.

(3) Ensure provision of a fourth administration of a statewide, biennial survey of attitudes toward tobacco and prevalence of tobacco use among public school students. To the extent possible, existing survey data shall be utilized.

(4) Provide recommendations to the Legislature and the State Department of Education on tobacco use prevention education program changes.

(5) Assist the State Department of Education in identifying and developing instructional materials and curricula in school-based programs, designed to enhance the prevention of and encouraging the cessation of the continuing use of, tobacco products. The materials and curricula shall address the specific needs of persons in grades 4 to 12, inclusive, and in adult education programs.

(d) School districts shall agree, as a condition of receiving money pursuant to this article, to participate in the evaluation if chosen by the evaluator.

(e) (1) The department shall contract with one or more qualified agencies for production and implementation of an ongoing public awareness of tobacco-related diseases by developing an information campaign using a variety of media approaches. The department shall issue a request for proposals biennially. Any media campaign funded with this part shall stress the importance of both preventing the initiation of tobacco use and quitting smoking and shall be based on professional market research and surveys necessary to determine the most effective method of diminishing tobacco use among specified target populations. Initial media efforts shall be directed to specific target populations. The contractors selected shall be provided with all available survey information resulting from ongoing programs funded under this article. Priority shall be given to minor children, ages 6 to 14, inclusive. The medium used shall be determined to be the most effective at reaching this targeted age group. With respect to the broadcast media, the message shall be aired at times expected to reach the priority age group. With respect to the print media, publications to be used shall be those that appeal to the priority age group.

(2) No media campaign funded pursuant to this article shall feature in any manner the image or voice of any elected public official or candidate for elected office, or directly represent the views of any elected public official or candidate for elected office.

(f) The department shall provide or contract for training, consultation, support, and continuing education to health professionals, and others interested in developing programs and services directed at preventing tobacco use and promoting smoking cessation, utilizing, when available and determined appropriate by the department, the expertise of universities in this state and schools of public health. The training, consultation, support, and continuing education shall include advice and support in creating a smoke-free environment.

(g) The department shall conduct an awards program to acknowledge the outstanding achievements of those communities, organizations, and groups that have fostered movement toward a smoke-free society or have reduced the consumption of tobacco.

(h) The department shall issue guidelines for local plans for education against tobacco use. The guidelines shall require local public health departments to provide services directed at preventing tobacco use and promoting smoking cessation to the target populations enumerated in Section 104360 and to persons under 19 years of age who no longer attend school and to youth attending school who are not served through State Department of Education funded programs. The guidelines shall require for each target population to be served a description of the services to be provided, an estimate of the number to be served, an estimate of the success rate, and a method to determine to what extent goals have been achieved. Beginning with the 1990-91 fiscal year, and for each fiscal year thereafter, the guidelines shall require local lead agencies to describe how local funding decisions will take into account evaluations of program effectiveness and efficiency. The guidelines shall require the submission of a budget and information on staffing configurations.

(i) By December 31, 1989, the department shall issue guidelines for fiscal year 1989-90 and by July 1, 1990, the department shall issue guidelines to local lead agencies on how to prepare a local plan for a comprehensive community intervention program against tobacco use.

(j) The department shall provide technical assistance to local lead agencies for the development of plans required by Section 104400 so that the local lead agencies are able to comply with the schedule for the submission of plans specified in Section 104400. The technical assistance shall include, but not be limited to, the following:

(1) Developing and disseminating preventive health education program options for local communities.

(2) Providing training, consultation, and technical assistance to local health departments, local advisory committees, and service providers.

(k) The department shall receive and approve local plans submitted by local lead agencies and provide technical assistance and guidance as necessary to ensure the compliance of the local lead agencies with this article. Every effort shall be made to approve or provide a list of necessary amendments to a local plan within 30 days of receipt of the local plan. The department may authorize a local lead agency to begin implementation of its local plan on a provisional basis, with final approval of the local plan contingent on satisfying conditions specified by the department.

(l) The department shall work in collaboration with the public and private sectors in implementing the activities required of the department and provide access upon request to local plans, program statistics, and other readily available information.

(m) The department shall provide staff, assistance, and support needed by the committee.

(n) In consultation with the committee, the department shall develop a comprehensive master plan for implementing tobacco education programs throughout the state for the prevention and cessation of tobacco use.

(o) The department shall consult regularly with the University of California regarding trends in the frequency and the cost of treating tobacco-related diseases and the success of research efforts to reduce tobacco use and limit its adverse health effects.

(p) The department shall establish, in consultation with the State Department of Education and county offices of education, a data collection and data management program to study effective tobacco use interventions. Under this program the department may

contract for studies and evaluations in school-based and community-based programs. The department shall consult with the State Department of Education regarding the collection and evaluation of program data.

(1) The department shall require, by contract, that local lead agencies use a uniform management data and information system that will permit comparisons of workload, unit costs, and outcome measurements on a statewide basis. The department shall specify data reporting requirements for local lead agencies and their subcontractors.

(2) The department shall approve local lead agency and grantee computer software and hardware in order to ensure systemwide compatibility and capacity to expand. Departmental guidelines for local plans shall require local lead agencies to set forth their hardware and software plans and needs.

(3) The department may contract for the development or operation of a computerized management information system.

(4) The department shall consult the State Department of Education regarding computer software and hardware systems for school-based programs.

104380. (a) Funds appropriated to the department for local lead agencies for purposes of this article shall be allocated prospectively, on a quarterly basis in accordance with this section.

(b) No local lead agency shall be allocated less than one hundred fifty thousand dollars ($150,000).

(c) (1) Except as provided in subdivision (b), counties not listed in subdivision (d) shall receive an allocation based on each county's proportion of the statewide population.

(2) Counties that receive their allocations pursuant to paragraph (1) shall receive 73 percent of their 1990-91 fiscal year allocation.

(d) Except as provided in subdivision (b), the balance of the funds after the allocation contained in subdivision (c) have been made, shall be allocated to the following specified counties in accordance with the following percentages:

COUNTY	ALLOCATION
Alameda	4.7427%
Contra Costa	1.8032%
Fresno	2.6855%
Kern	1.7083%
Lake	0.1826%
Los Angeles	43.8057%
Mendocino	0.2664%
Merced	0.7244%
Monterey	1.2937%
Orange	5.1382%
Placer	0.3697%
Riverside	3.1828%
Sacramento	3.2922%
San Bernardino	3.7972%
San Diego	5.9971%
San Francisco	5.3898%
San Joaquin	1.7413%
San Luis Obispo	0.8096%
San Mateo	1.4582%
Santa Barbara	0.7918%
Santa Clara	5.2450%
Santa Cruz	0.7709%
Stanislaus	1.2793%
Tulare	1.3768%
Ventura	1.5472%
Yolo	0.6004%

(e) Except as provided in subdivision (b), the allocation for those counties in which a city health department which is a local lead agency as defined by subdivision (l) of Section 104355 is located shall be apportioned among the local lead agencies in that county based on their

jurisdiction's proportionate share of the countywide population.

(f) Reductions in allocations necessary to comply with subdivision (b) shall be distributed among the counties listed in subdivision (d) proportionately based on the table contained in subdivision (d).

(g) The department shall use population estimates for 1989 for each county and for each city as specified in the Department of Finance E-1 Report.

(h) Payments shall be made prospectively, on a quarterly basis, to local jurisdictions.

(i) (1) The department shall conduct a fiscal and program review on a regular basis.

(2) If the department determines that any county is not in compliance with any provision of this chapter, the county shall submit to the department, within 60 days, a plan for complying with this article.

(3) The department may withhold funds from local lead agencies allocated funds under this section that are not in compliance with this chapter in the same manner as the department is authorized under Chapter 5 (commencing with Section 16940) of Part 4.7 of Division 9 of the Welfare and Institutions Code. The department may terminate the agreement with the noncompliant local lead agency, recoup any unexpended funds from the noncompliant local lead agency, and reallocate both the withheld and recouped funds to provide services available under this section to the jurisdiction of the noncompliant agency through an agreement with a different governmental or private nonprofit agency capable of delivering those services based on the department's local lead agency guidelines for local plans and a process determined by the department. The department may encumber and reallocate these funds no sooner than three months after the date of the first notification that the department has determined the local lead agency to be out of compliance with statutory requirements.

104385. (a) The department shall award and administer grants for projects directed at the prevention of tobacco-related diseases. The purpose of the grant program is to conduct health education and promotion activities targeted to high-risk persons and groups in order to reduce the number of persons beginning to use tobacco, continuing to use tobacco, or developing tobacco-related diseases. The grants shall provide funds to eligible grantees, as determined by the department. In awarding grants, the department shall select a variety of projects and grantees.

(b) The department shall develop criteria and standards for the allocation of grant awards which consider the need to balance target populations to be served, project types of rural suburban and urban projects, and consider the current regional availability of similar services. Target populations may include, but not be limited to, children, young adults, pregnant women, low-income individuals, Black, Hispanic, Native American, and Asian-Pacific Islander populations, current smokers, and schoolaged youth no longer attending school classes. The grant awards may also be made to school districts for nonclassroom, districtwide efforts to reduce tobacco use. The department shall develop mechanisms to evaluate all programs and shall require any program funded under this article to provide statistics on the impact of the program.

(c) The department shall give priority to grantees who do the following:

(1) Demonstrate community support for the project.

(2) Design the project to coordinate with other community services including local health programs, school-based programs, or voluntary health organizations.

(3) Design the project to utilize and enhance existing services and resources.

(4) Serve a target population at high risk of starting tobacco use or developing tobacco-related illnesses.

(5) Demonstrate an understanding of the role community norms have in influencing behavioral change regarding tobacco use.

(6) Indicate promising innovative approaches to diminishing tobacco use among target groups and permit those approaches to be replicated by others.

(d) Of the funds appropriated to the department in Item 4260-111-231 of the 1996 Budget Act, five million dollars ($5,000,000) shall be available specifically for grants awarded on a competitive basis to provide smoking cessation classes or services for persons eligible for and enrolled in the state's Medi-Cal program, or persons who are medically indigent.

104390. (a) The department may provide program support services to local tobacco use prevention programs, that shall include, but need not be limited to, all of the following:

(1) Data collection.

(2) Educational materials.

(3) Evaluation.

(4) Technical assistance.

(5) Training.

(6) Transfer of information among programs.

(b) Services funded under this section may be awarded through a competitive request for proposal process or directly to another state agency, the Regents of the University of California, the federal government, or an auxiliary organization of the California State University.

(c) Grantees of services under this section shall demonstrate the ability to do both of the following:

(1) Improve the delivery of local tobacco use prevention programs directed at the targeted populations.

(2) Design programs to provide statewide and regional services to support local implementation of tobacco use prevention programs.

104395. The department shall expand the Child Health and Disability Prevention (CHDP) Program contained in Article 6 (commencing with Section 124025) of Chapter 3 of Part 2 of Division 106 as follows:

(a) Any child between birth and 90 days after entrance into first grade, all persons under 21 years of age who are eligible for the California Medical Assistance Program, and any person under 19 years of age whose family income is not more than 200 percent of the federal poverty level shall be eligible for services under the program in the county of which they are a resident. The department shall adopt regulations specifying which age groups shall be given certain types of screening tests and recommendations for referral.

(b) The first source of referral under the program shall be the child's usual source of health care. If referral is required and no regular source of health care can be identified, the facility or provider providing health screening and evaluation services shall provide a list of three qualified sources of care, without prejudice for or against any specific source.

(c) The department shall issue protocols for an antitobacco education component of the child health and disability prevention medical examination. The protocols shall include the following: dissuading children from beginning to smoke, encouraging smoking cessation, and providing information on the health effects of tobacco use on the user, children, and nonsmokers. The protocols shall also include a focus on health promotion, disease prevention, and risk reduction, utilizing a "wellness" perspective that encourages self-esteem and positive decision-making techniques, and referral to an appropriate community smoking cessation program.

(d) Notwithstanding any other provision of law, the department shall ensure that a portion of the funds in the Child Health Disability Prevention Program budget is used to facilitate the integration of the medical and dental components of all aspects of that program.

(e) The department shall expand its support and monitoring of county child health and disability prevention program efforts to provide all of the following:

(1) Review of a representative, statistically valid, randomly selected sample of child health and disability prevention health assessments, including, but not limited to, dental assessments, which result in the discovery of conditions which require followup diagnosis and treatment, including but not limited to dental treatment, and which qualify for services under this section. The purpose of the survey and followup reviews of local programs is to determine whether necessary diagnosis and treatment services are being provided, and the degree to which those services comply with the intent of the act that added this subdivision. These survey reviews shall include all counties and shall be conducted at least three times a year.

(2) At least once a year, as part of regular visits to county child health and disability prevention programs to provide technical assistance, support services and monitoring and evaluation of program performance, department staff shall review the effectiveness of the mandated treatment program. The purpose of this review is to assure that the county is providing appropriate followup services for conditions discovered during child health and disability prevention health assessments. This review shall be done in conjunction with the ongoing survey activity of the Child Health and Disability Prevention Branch of the department and shall utilize data resulting from that activity.

(3) If the department establishes that a county has failed to provide treatment services mandated by the act that added this subdivision, the department shall require the county to submit a plan of correction within 90 days. If the department finds that substantial correction has not occurred within 90 days following receipt of the correction plan, it may require the county to enter into a contract pursuant to Section 16934.5 of the Welfare and Institutions Code for the remainder of the fiscal year and the following fiscal year, and for this purpose shall withhold the same percentage of funds as are withheld from other counties participating in the program pursuant to Section 16934.5 of the Welfare and Institutions Code.

104400. (a) (1) Except as provided in paragraph (2), each county health department or city health department as provided in Section 16800 of the Welfare and Institutions Code shall be the lead local agency for its county. The local lead agency shall have the overall responsibility for the success of the programs funded pursuant to this article in its county.

(2) Counties contracting with the department for the provision of health care services pursuant to Section 16809 of the Welfare and Institutions Code may elect to enter into an arrangement with the department for the administration and provision of funds and services subject to this article in their counties. In those cases, the department shall act as the local lead agency for that county.

(b) The local lead agency shall do all of the following:

(1) Provide, or contract for, preventive health education against tobacco services to targeted populations.

(2) Establish a coordinated information, referral, outreach, and intake system for preventive health education against tobacco services for targeted populations.

(3) Administer funds in accordance with this article, and department guidelines.

(4) Establish a uniform data collection system in compliance with standards and guidelines issued by the department, and submit audit and fiscal reports as required by the department.

(5) Coordinate services authorized by this article within and between county service providers.

(6) Provide technical assistance to service providers.

(7) Review, and suggest improvements to proposed county school district antitobacco plans. Prepare a letter for the county officer of education setting forth conclusions of the review. Work closely with the county office of education to ensure effective coordination of local school and nonschool antitobacco efforts.

(8) Coordinate activities with other governmental agencies.

(c) The local plans described in paragraph (4) of subdivision (b) shall include all of the following:

(1) A description of the targeted population, including age, race, ethnicity, language, education, income levels, its status as urban or rural, transportation needs, and any other information which the local lead agency determines is relevant.

(2) Local data on smoking and tobacco use among the targeted population.

(3) Goals for how many persons of the targeted population will be reached by health education, how many will participate in a smoking prevention or cessation program, and how many will quit or not start smoking as a result.

(4) A description of the direct services to be provided under the plan, including the services to be provided to the targeted populations enumerated in Section 104360 and schoolage youth who do not receive services through public school programs.

(5) Cost estimates for programs identified in the plan.

104405. Local lead agencies shall obtain the involvement and participation of local community organizations with special experience and expertise in community health education against tobacco usage, including representatives of high-risk populations. Local lead agencies shall include in their plan submitted pursuant to Section 104400 a description of how they shall fulfill this requirement. Representatives of these local groups shall assist and advise the local lead agency in all aspects of the local plan implemented pursuant to this article.

104410. The following goals and priorities shall govern funding services provided under this article pursuant to local plans:

(a) The provisions of preventive health education against tobacco use aimed at targeted populations, including pregnant women, mothers of young children, and minorities, school dropouts, and other school-aged youth who would otherwise be unserved.

(b) The provisions of preventive health education against tobacco use aimed at school-age youth and their families in the community.

(c) The provision of preventive health education against tobacco use aimed at the workplace and the community.

104415. (a) Local lead agencies shall attempt to ensure that preventive education against tobacco use for targeted populations is provided in a way that reaches all geographic areas of the county.

(b) In choosing among eligible service providers available to serve the targeted populations described in subdivision (a), the local lead agency shall give priority to programs presently providing preventive health education, case management services to the targeted populations which are compatible with preventive health education against tobacco use, or other services in which preventive health education against tobacco use can be incorporated in a logical and efficient manner.

104420. The State Department of Education shall provide the leadership for the successful implementation of this article in programs administered by local public and private schools, school districts, and county offices of education. The State Department of Education shall do all of the following:

(a) Provide a planning and technical assistance program to carry out its responsibilities under this article.

(b) Provide guidelines for schools, school districts, and school district consortia to follow in the preparation of plans for implementation of antitobacco use programs for schoolage populations.

The guidelines shall:

(1) Require the applicant agency to select one or more model program designs and shall permit the applicant to modify the model program designs to take special local needs and conditions into account.

(2) Require the applicant agency to prepare for each target population to be served a description of the service to be provided, an estimate of the number to be served, an estimate of the success rate and a method to determine to what extent goals have been achieved.

(3) Require plan submissions to include a staffing configuration and a budget setting forth use and distribution of funds in a clear and detailed manner.

(c) Prepare model program designs and information for schools, school districts, consortia, and county offices of education to follow in establishing direct service programs to targeted populations. Model program designs shall, to the extent feasible, be based on studies and evaluations that determine which service delivery systems are effective in reducing tobacco use and are cost-effective. The State Department of Education shall consult with the department, and school districts with existing antitobacco programs in the preparation of model program designs and information.

(d) Provide technical assistance for schools, school districts, and county offices of education

regarding the prevention and cessation of tobacco use. In fulfilling its technical assistance responsibilities, the State Department of Education may establish a center for tobacco use prevention that shall identify, maintain, and develop instructional materials and curricula encouraging the prevention or cessation of tobacco use. The State Department of Education shall consult with the department and others with expertise in antitobacco materials or curricula in the preparation of these materials and curricula.

(e) Monitor the implementation of programs that it has approved under this article to ensure successful implementation.

(f) Prepare guidelines within 180 days of the effective date of this article for a school-based program of outreach, education, intervention, counseling, peer counseling, and other activities to reduce and prevent smoking among schoolage youth.

(g) Assist county offices of education to employ a tobacco use prevention coordinator to assist local schools and local public and community agencies in preventing tobacco use by pupils.

(h) Train the tobacco use prevention coordinators of county offices of education so that they are:

(1) Familiar with relevant research regarding the effectiveness of various kinds of antitobacco use programs.

(2) Familiar with department guidelines and requirements for submission, review, and approval of school-based plans.

(3) Able to provide effective technical assistance to schools and school districts.

(i) Establish a tobacco use prevention innovation program effort directed at specific pupil populations.

(j) Establish a competitive grants program to develop innovative programs promoting the avoidance, abatement, and cessation of tobacco use among pupils.

(k) Establish a tobacco-free school recognition awards program.

(l) As a condition of receiving funds pursuant to this article, the State Department of Education, county offices of education, and school districts shall ensure that they coordinate their efforts toward smoking prevention and cessation with the lead local agency in the community where the local school district is located.

(m) (1) Develop, in coordination with the county offices of education, a formula that allocates funds for school-based, antitobacco education programs to school districts and county offices of education for all pupils in grades 4 to 8, inclusive, on the basis of the average daily attendance (ADA) of pupils. School districts shall provide tobacco-use prevention instruction for pupils, grades 4 to 8, inclusive, that address the following essential topics:

(A) Immediate and long-term undesirable physiologic, cosmetic, and social consequences of tobacco use.

(B) Reasons that adolescents say they smoke or use tobacco.

(C) Peer norms and social influences that promote tobacco use.

(D) Refusal skills for resisting social influences that promote tobacco use.

(2) Develop a competitive grants program administered by the State Department of Education directed at pupils in grades 9 to 12, inclusive. The purpose of the grant program shall be to conduct tobacco-use

prevention and cessation activities targeted to high-risk pupils and groups in order to reduce the number of persons beginning to use tobacco, or continuing to use tobacco. The State Department of Education shall consult with local lead agencies, the Tobacco Education and Research Oversight Committee, and representatives from nonprofit groups dedicated to the reduction of tobacco-associated disease in making grant award determinations. Grant award amounts shall be determined by available funds. The State Department of Education shall give priority to programs, including, but not limited to, the following:

(A) Target current smokers and pupils most at risk for beginning to use tobacco.

(B) Offer or refer pupils to cessation classes for current smokers.

(C) Utilize existing antismoking resources, including local antismoking efforts by local lead agencies and competitive grant recipients.

(n) (1) Allocate funds for administration to county offices of education for implementation of Tobacco Use Prevention Programs. The funds shall be allocated according to the following schedule based on average daily attendance in the prior year credited to all elementary, high, and unified school districts, and to the county superintendent of schools within the county as certified by the Superintendent of Public Instruction:

(A) For counties with over 550,000 units of average daily attendance, thirty cents ($0.30) per average daily attendance.

(B) For counties with more than 100,000 and less than 550,000 units of average daily attendance, sixty-five cents ($0.65) per average daily attendance.

(C) For counties with more than 50,000 and less than 100,000 units of average daily attendance, ninety cents ($0.90) per average daily attendance.

(D) For counties with more than 25,000 and less than 50,000 units of average daily attendance, one dollar ($1) per average daily attendance.

(E) For counties with less than 25,000 units of average daily attendance, twenty-five thousand dollars ($25,000).

(2) If funds appropriated for this purpose are insufficient, the Superintendent of Public Instruction shall prorate available funds among participating county offices of education with more than 25,000 units of average daily attendance.

(o) Allocate funds appropriated by the act adding this subdivision for local assistance to school districts and county offices of education based on average daily attendance reported in the second principal apportionment in the prior fiscal year. Those school districts and county offices of education that receive one hundred thousand dollars ($100,000) or more of local assistance pursuant to this part shall target 30 percent of those funds for allocation to schools that enroll a disproportionate share of pupils at risk for tobacco use.

(p) (1) Provide that all school districts and county offices of education that receive funding under subdivision (o) make reasonable progress toward providing a tobacco-free environment in school facilities for pupils and employees.

(2) All school districts and county offices of education that receive funding pursuant to paragraph (1) shall adopt and enforce a tobacco-free campus policy no later than July

1, 1995. The policy shall prohibit the use of tobacco products, any time, in district-owned or leased buildings, on district property and in district vehicles. Information about the policy and enforcement procedures shall be communicated clearly to school personnel, parents, pupils, and the larger community. Signs stating "Tobacco use is prohibited" shall be prominently displayed at all entrances to school property. Information about smoking cessation support programs shall be made available and encouraged for pupils and staff. Any school district or county office of education that does not have a tobacco-free district policy implemented by July 1, 1996, shall not be eligible to apply for funds from the Cigarette and Tobacco Products Surtax Fund in the 1996-97 fiscal year and until the tobacco-free policy is implemented. Funds that are withheld from school districts that fail to comply with the tobacco-free policy shall be available for allocation to school districts implementing a tobacco-use prevention education program, pursuant to subdivision (m).

104425. (a) The State Department of Education shall award and administer grants for projects directed at the prevention of tobacco use among school-age children. The purpose of the grant program is to conduct health education and tobacco information activities targeted to school-age children in order to reduce the number of persons beginning to use, or continuing to use, tobacco. The grants shall provide funds to eligible grantees, as determined by the State Department of Education. The State Department of Education shall select a variety of grantees and innovative and promising projects.

(b) The State Department of Education shall develop criteria and standards for the allocation of grant awards, that consider the need to balance (1) target populations to be served; (2) project type; (3) rural, suburban, and urban projects, and consider the local availability of similar services. The department shall evaluate all grant programs by employing statistics that describe the impact of a grant program.

(c) The State Department of Education shall give priority to grantees who do the following:

(1) Design the project to coordinate with other community services including local health agencies, voluntary health organizations, and parent organizations.

(2) Design the project to utilize and develop existing services and resources.

(3) Demonstrate an understanding of the role that society, the environment, and community norms have in influencing tobacco usage.

(4) Indicate promising innovative approaches to diminishing tobacco use among school-age children and permit those approaches to be replicated by others.

104430. (a) The State Department of Education shall make available funds appropriated to it from the Health Education Account in the Cigarette and Tobacco Products Surtax Fund for the implementation of Section 104425 according to the following schedule:

(1) (A) Not less than two-thirds of that amount shall be awarded to local educational agencies. Funds allocated pursuant to paragraphs (2) and (3) shall not be considered funds for distribution to local educational agencies.

(B) Not less than two hundred thousand dollars ($200,000) of the amount subject to subparagraph (A) shall be made available for proportionate awards to applicant education

centers pursuant to Article 6 (commencing with Section 33380) of Chapter 3 of Part 20 of the Education Code, for tobacco use prevention projects.

(2) Not less than two hundred thousand dollars ($200,000) of the amount awarded pursuant to Section 104425 shall be used for the support of statewide program evaluation.

(3) Not more than nine hundred thousand dollars ($900,000) of the amount awarded pursuant to Section 104425 shall be awarded as grants for technical assistance, implementation strategies, and regional coordinating activities related to tobacco use prevention pursuant to subdivision (c) of Section 104425.

(b) Any amount that exceeds the amounts specified in subdivision (a) shall be allocated for competitive grants pursuant to subdivision (c) of Section 104425.

(c) On and after January 1, 1992, funding to which this section applies shall be made available only upon a determination by the Legislative Analyst and the Tobacco Education Oversight Committee, in the evaluation required by Section 104460, indicating that the tobacco use prevention program meets the purpose of this article.

104435. County offices of education shall do all of the following:

(a) Provide technical assistance and training to school districts and consortia of school districts regarding planning and preparation of antitobacco programs plans pursuant to State Department of Education guidelines.

(b) Receive and approve plans submitted by school districts and provide technical assistance and guidance as necessary to ensure the compliance of school districts with this article. Every effort shall be made to approve or provide a list of necessary amendments to a school district plan within 30 days of receipt. The county office of education may authorize a school district to begin implementation of its plan on a provisional basis, with final approval of the local plan contingent on satisfying specified conditions.

(c) Certify to the State Department of Education that a school district has met the conditions specified in the department's guidelines and that funds reserved for the school district's antitobacco programs may be released.

(d) Provide for appropriate coordination between school districts programs and local antitobacco use programs funded by the local lead agency.

104440. Local lead agencies shall be ineligible for awards under the competitive grants program, unless the local lead agency is participant within a consortium of community-based organizations or nonprofit organizations.

104445. In awarding grants under the competitive grants program, the department shall give preference to all of the following:

(a) Nonprofit or community-based organizations.

(b) Current contractors that meet both of the following requirements:

(1) Have demonstrated effectiveness and capacity in providing tobacco education services.

(2) Serve populations and areas with substantial unmet service needs.

(c) Proposals that provide new or expanded services to geographic areas or target populations underserved, as determined by the department.

104450. (a) The State Department of Education shall develop a common reporting format for districts receiving tobacco-use-prevention funds under this article.

(b) The format required by subdivision (a) shall be designed to provide annual data on all of the following:

(1) Tobacco-use-prevention education program expenditures.

(2) Tobacco-use-prevention education program instructional and other services to targeted and general student populations.

(3) Tobacco-use-prevention education program staff development and parent training.

(4) Other information determined to be appropriate by the department.

(c) The information provided by the format required by subdivision (a) shall be in a quantitative format that describes the number of individuals who are served and the number of individuals receiving each type of service.

(d) In addition to the requirements of subdivision (c), the information to be provided by the format required by subdivision (a) shall include, at a minimum, all of the following:

(1) (A) The number of students receiving tobacco-use-prevention instruction and the type of curriculum used.

(B) The format required by subdivision (a) shall show, by category, those students listed for the purpose of subparagraph (A), in each target group listed in Section 104360.

(2) Other programmatic activities directly targeted to students, and the number of students participating in each.

(3) The types of staff development or other tobacco-use-prevention training and, by staff classification, the number of staff members receiving the training.

(4) The number of parents receiving training and the types of training provided.

(5) The types of programs geared toward community involvement and the number of people served by each type.

(6) The types of services provided to target populations that are in addition to services provided to other students.

(7) The number and size of schools that are tobacco-free.

(8) The ways in which money appropriated for the purpose of this article has been spent, including the following categories: salaries, including, but limited to, personnel, and substitute teacher costs; benefits; travel; consultant services; operating expenses, including, but not limited to, curriculum and instructional materials, supplies, other; capital outlay; and indirect costs.

(e) (1) Each county office of education shall provide to the State Department of Education an annual report on district expenditures and services within its respective county pursuant to the common reporting format developed by the State Department of Education.

(2) The county shall provide an annual report of the information required in paragraph (8) of subdivision (d).

(f) (1) For the 1991-92 fiscal year and fiscal years thereafter, the State Department of Education shall report to the Legislature on local district expenditures and services statewide.

(2) The department shall make the report required by paragraph (1) on or before January 1 of each year.

104455. (a) The State Department of Education shall monitor and ensure implementation of district and county offices of education tobacco-free policies and tobacco-use prevention education programs in districts receiving funding from the Cigarette and Tobacco Products Surtax Fund through procedures in the Coordinated Compliance Review Manual provided to school districts

by the Superintendent of Public Education.

(b) The department shall develop and adopt yearly quantifiable targets for the reduction of tobacco use in those programs funded on a competitive grant basis for secondary school implementation.

104460. (a) Each school district receiving funds from the Cigarette and Tobacco Products Surtax Fund shall make all of the following services available to every pregnant minor and minor parent enrolled in the school district:

(1) Referral to perinatal and related support services.

(2) Outreach services and assessment of smoking status.

(3) Individualized counseling and advocacy services.

(4) Motivational messages.

(5) Cessation services, if appropriate.

(6) Incentives to maintain a healthy lifestyle.

(7) Followup assessment.

(8) Maintenance and relapse prevention services.

(b) Where appropriate, those services listed in subdivision (a) shall be integrated with existing programs for pregnant minors and minor parents.

(c) Each district plan submitted in application for funds under this article shall include a description of the availability of the services required by this section.

104465. (a) The department shall annually set aside three million dollars ($3,000,000) appropriated for the purposes of the competitive grants program established pursuant to this article in order to support efforts to link the statewide media campaign to local communities and to provide regional public and community relations or media initiatives.

(b) Local community initiatives may include, but are not limited to, all of the following:

(1) Encouraging volunteer efforts.

(2) Local media programming.

(3) Provision of assistance in, and facilitation of, public and community events.

(c) The efforts described in subdivision (b) shall be directed principally to the target communities described in Section 24161.5.

(d) Regular application procedures for competitive grants under this article shall apply to applications for grants under this section.

(e) Funds awarded pursuant to this section shall be awarded in the same manner as other competitive grants under this article.

104470. The State Department of Education shall make periodic reports to the committee regarding the status and funding of tobacco education programs funded under this article as required by the committee. The reports shall include an overview of program and grant expenditures funded under this article.

104475. There is hereby created under the authority of the Controller the Tobacco Education Fund.

104480. All guidelines, criteria, standards, and requirements specified in this article are exempt from the requirements of Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, and shall be implemented without being adopted as regulations.

APPENDIX D

SUMMARY OF FINDINGS ABOUT LOCAL TUPE PROGRAMS FROM THE INDEPENDENT EVALUATION CONSORTIUM[9]

CDC GUIDELINE	FINDINGS
Develop and enforce a school policy on tobacco use.	**Wave 1 Findings, School Year 1995-96** ◆ Nearly all of the school districts in California have adopted a no-tobacco use policy. ◆ The majority of students in grades five, eight, and ten were aware that their school has a rule prohibiting smoking. ◆ Perceived student compliance with school no-tobacco use policies in high schools was higher among teachers than among students. ◆ The two most common penalties for violating the school's no-smoking policy were calling the student's parents and suspending or expelling the student. Only a few high schools (7%) and one quarter of middle schools require students who use tobacco on school grounds to attend a special tobacco education program as a positive alternative to suspension. In other schools, students were referred to such a program (but not required to attend). **Wave 2 Findings, School Years 1996–98** ◆ As of February 1999, 97% of school districts in California had adopted a policy that prohibits the use of tobacco by all students, school staff, parents, and visitors in district-owned or leased buildings, on district grounds, and in district vehicles.

[9] From *Final Report of the Independent Evaluation of the California Tobacco Control Prevention & Education Program: Wave 1 Data, 1996-1997* by the Independent Evaluation Consortium, 1998.

CDC GUIDELINE	FINDINGS
	◆ From 1996 to 1998, there was an increase in high school teachers' perceptions of student compliance with school tobacco-free policies. However, high school students reported lower policy compliance than did teachers. ◆ Overall perceived compliance remained poor. ◆ The types of consequences that school administrators reported they implemented for student violations did not change significantly from 1996 to 1998.
Provide instruction about the short- and long-term negative physiologic and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills.	**Wave 1 Findings, School Year 1995-96** ◆ Teachers were more likely to address the physiologic consequences of tobacco use than psychosocial factors in their tobacco instruction. Just over one-half (53%) of eighth-grade teachers addressed peer norms, which have been shown to be a critical mediator of substance abuse prevention program effectiveness. Social consequences, another important mediator of program outcomes, were addressed by only 60%, 63% and 77% of elementary, middle/junior high, and high school teachers, respectively. **Wave 2 Findings, School Years 1996–98** ◆ During school year 1996-97, the vast majority of fifth-, eighth-, and tenth-grade teachers (93%) provided instruction about the negative physiologic consequences of tobacco use. Instruction about psychosocial factors related to tobacco use, including social influences (66%), social consequences (60%), peer norms (54%), and refusal skills (54%) was less common.

CDC GUIDELINE	FINDINGS
Provide tobacco use prevention education in kindergarten through twelfth grade; this should be especially intensive in junior high or middle and should be reinforced in high school.	**Wave 1 Findings, School Year 1995-96** ◆ During the 1995-96 school year, tobacco instruction was no more common in eighth grade than in fifth and tenth grade , classrooms with just over one-half of teachers addressing it. **Wave 2 Findings, School Years 1996–98** ◆ During school year 1996-97, eighth-grade science and health teachers in California were about as likely to deliver at least one tobacco lesson (72%) as were fifth-grade teachers (78%). Tenth-grade health and PE teachers were most likely to deliver at least one tobacco lesson (88% in grantee and 84% in nongrantee high schools). ◆ Tenth-grade teachers in nongrantee high schools spent as much time on tobacco prevention lessons during 1996-97 as did teachers in TUPE grantee high schools. ◆ The prevalence of tobacco-specific schoolwide activities was greater in middle-junior highs than in elementary or high schools.
Provide program-specific training for teachers.	**Wave 1 Findings, School Year 1995-96** ◆ Only one-fifth of teachers (20%) had participated in program-specific training during the five years prior to the survey. Almost one-quarter had received general information about tobacco in training, rather than program-specific preparation. The majority of TUPE coordinators (71%) said their district had sponsored at least one tobacco in-service training during the 1995-1996 school year and 65% of districts had distributed pamphlets, fact sheets, curriculum ideas, and videos to teachers.

CDC GUIDELINE	FINDINGS
	Wave 2 Findings, School Years 1996–98 ◆ In 1998, only 24% of teachers reported they had participated in tobacco-related in-service training during the previous five years. Among those, only 16% of fifth-grade teachers, 12% of eighth-grade teachers, and 9% of tenth-grade teachers had participated in *program-specific* training. The majority of TUPE coordinators (66%) reported that their district had sponsored at least one in-service training on tobacco prevention education during 1996–97.
Involve parents or families in support of school-based programs to prevent tobacco use.	**Wave 1 Findings, School Year 1995-96** ◆ Teachers and school administrators reported they made few efforts to involve parents in tobacco prevention education. In a telephone survey of parents, 34% reported that during the previous year, their child had brought home an assignment that involved parent/child discussion about tobacco. **Wave 2 Findings, School Years 1996–98** ◆ Among teachers who provided at least one tobacco lesson, 81% of fifth-grade, 80% of eighth-grade, and 89% of tenth-grade teachers had tried "not too much" or "not at all" to involve parents in tobacco education.
Support cessation efforts among students and all school staff who use tobacco.	**Wave 1 Findings, School Year 1995-96** ◆ Just over one-quarter (27%) of tenth-grade students in schools with a tobacco cessation program were aware that it existed. Smokers were no more likely than nonsmokers to know of its existence. In these high schools, 29% of teachers reported that they had referred at least one student to the program in the previous years.

CDC GUIDELINE	FINDINGS
	◆ In high schools overall, 28% of teachers had received information about smoking cessation programs for school staff. **Wave 2 Findings, School Years 1996–98** ◆ In 1996-97, 92% of grantee and 42% of nongrantee high schools had an on-site cessation program for students. In schools that had a program, only 25% of current student smokers were aware of the program. In those schools, 39% of teachers reported that they had referred at least one student to the program in the previous year. ◆ In high schools overall, 33% of teachers had received information about smoking cessation programs available to school staff.
Assess the tobacco use prevention program at regular intervals.	**Wave 1 Findings, School Year 1995-96** ◆ The majority of TUPE coordinators reported that their district had conducted some type of evaluation. About one-half had administered a student survey, one quarter had surveyed staff, and a few had conducted parent surveys. **Wave 2 Findings, School Years 1996–98** ◆ The majority of TUPE coordinators (80%) reported that their school district had evaluated its TUPE program within the past five years. The most common methods were student surveys (42%) and staff surveys (30%).

References

Austin, E.W., & Johnson, K.K. (1997). Effects of general and alcohol-specific media literacy training on children's decision making about alcohol. *Journal of Health Communication, 2*(1), 17–43.

Bauman, K.E., LaPrelle, J., Brown, J.D., Koch, G.G., & Padgett, C.A. (1991). The influence of three mass media campaigns on variables related to adolescent cigarette smoking: Results of a field experience. *American Journal of Public Health, 81*(5), 597–604.

Bell, R.M., Ellickson, P.L., & Harrison, E.R. (1993). Do drug prevention effects persist into high school? How Project ALERT did with ninth graders. *Preventive Medicine, 22*, 463–483.

Benson, P.L., Leffert, N., Scales, P.C., & Blyth, D.A. (1998). Beyond the "village" rhetoric: Creating healthy communities for children and adolescents. *Applied Developmental Science, 2*(3), 138–159.

Botvin, G., Batson, H., Vitale, S., Bess, V., Baker, E., & Dusenbury, L.A. (1989). Psychosocial approach to smoking prevention for urban black youth. *Public Health Reports, 104*(6), 573–582.

Botvin, G., Baker, E., Dusenbury, L., Botvin, E., & Filazzola, A. (1993). Preventing adolescent drug abuse through a multi-modal cognitive-behavioral approach: Results of a six-year study. Ithaca, NY: Cornell University Medical College, Institute for Prevention Research.

California Department of Health Services. (1998). *A model for change: The California experience in tobacco control.* Sacramento, CA: Tobacco Control Section.

California Department of Health Services. (1998). Adult and youth smoking prevalence, 1990–1997. Sacramento, CA: Tobacco Control Section.

Center for Substance Abuse Prevention (1997). *Reducing tobacco use among youth: Community-based approaches.* Washington, DC: Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services (DHHS Publication No. (SMA) 97-3146).

Centers for Disease Control and Prevention. (1994). Guidelines for school health programs to prevent tobacco use and addiction. *Morbidity and Mortality Weekly Report, 43*(RR-2), 1–18.

Coleman-Wallace, D., Lee, J.W., Montgomery, S., Blix, G., Wang, D.T. (1999). Evaluation of developmentally appropriate programs for adolescent tobacco cessation. *Journal of School Health, 69* (8), 314-319.

Cummings, K.M., Hyland, A., Saunders-Martin, T., Peria, J., Coppola, P.R., & Pechacek, T.F. (1998). Evaluation of an enforcement program to reduce tobacco sales to minors. *American Journal of Public Health, 88*(6), 932–935.

Dent, C.W., Sussman, S., Stacy, A.W., Craig, S., Burton, D., & Flay, B.R. (1995). Two-year behavior outcomes of Project Towards No Tobacco Use. *Journal of Consulting and Clinical Psychology, 63*(4), 676–677.

DiFranza, J.R., Savageau, J.A., and Aisquith, B.F. (1996). Youth access to tobacco: The effects of age, gender, vending machine locks, and "It's the Law" programs. *American Journal of Public Health, 86*(2), 221–224.

Eckhardt, L., Woodruff, S.I., & Elder, J.P. (1997). Relative effectiveness of continued, lapsed, and delayed smoking prevention intervention in senior high school students. *American Journal of Health Promotion, 11*, 418–421.

Edwards, C.C., Elder, J.P., de Moor, C., Wildey, M.B., Mayer, J.A., & Senn, K.L. (1992). Predictors of participation in a school-based anti-tobacco activism program. *Journal of Community Health, 17*, 283–289.

Elder, J.P., Wildey, M., de Moor, C., Sallis, J.F., Eckhardt, L., Edwards, C., Erickson, A., Golbeck, A., Hovell, M., Johnston, D., Levitz, M.D., Molgaard, C., Young, R., Vito, D., and Woodruff, S.I. (1993). The long-term prevention of tobacco use among junior high school students: Classroom and telephone interventions. *American Journal of Public Health, 83*, 1239–1244.

Ellickson, P.L., & Bell, R.M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science, 247*, 1299–1305.

Ellickson, P.L., & Bell, R.M., & McGuigan, K. (1993). Preventing adolescent drug use: Long-term results of a junior high program. *American Journal of Public Health, 83*(6), 856–861.

Flay, B.R. (1985). Psychosocial approaches to smoking prevention: A review of findings. *Health Psychology, 4*, 449–488.

Flay, B.R, Hansen, W.B., Johnson, C.A., Collins, L.M., Dent, C.W., Dwyer, K.M., Grossman, L., Hockstein, J.R., Sobel, J.L., Sobol, D.F., Sussman, S., & Ulene, A. (1987). Implementation effectiveness trial of a social influences smoking prevention program using schools and television. *Health Education Research, 2*(4), 385–400.

Forster, J., Murray, D.M., Wolfson, M., Blaine, T.M., Wagenaar, A.C., & Hennrikus, D.J. (1998). The effects of community policies to reduce youth access to tobacco. *American Journal of Public Health, 88*(8), 1193–1197.

Glanz, K., Lewis, F.M., & Rimer, B.K. (Eds.) (1990). *Health behavior and health education: Theory and practice.* San Francisco: Jossey-Bass.

Green, L.W., & Lewis, F.M. (1986). *Measurement and evaluation in health education and health promotion*. Palo Alto, CA: Mayfield Publishing Co.

Hansen, W.B. (1992). School-based substance use prevention: A review of the state of the art in curriculum, 1980-1990. *Health Education Research: Theory and Practice, 7*(3), 403–430.

Hansen, W.B., Malotte, C.K., & Fielding, J.E. (1988). Evaluation of a tobacco and alcohol abuse prevention curriculum for adolescents. *Health Education Quarterly, 15*, 93–114.

Independent Evaluation Consortium. (1998). *Final report of the independent evaluation of the California Tobacco Control Prevention and Education Program: wave 1 data, 1996–1997.* Rockville, MD: The Gallup Organization.

Independent Evaluation Consortium (1999). *Final report of the independent evaluation of the California Tobacco Control Prevention and Education Program: wave 2 data, 1998, wave 1 and wave 2 data comparisons, 1996–1998.* Rockville, MD: The Gallup Organization.

Institute of Medicine. (1994). *Growing up tobacco free. Preventing nicotine addiction in children and youths.* Washington, DC: National Academy Press.

Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1994). *National survey results on drug-use from the Monitoring the Future study, 1975-1992. Vol. 1: Secondary school students.* Washington, DC: USDHHS, Public Health Service, National Institutes of Health, National Institute of Drug Abuse.

Kerlinger, F.N. (1973). *Foundations of behavioral research.* New York: Holt, Rinehart and Winston.

National Cancer Institute (1990). *School programs to prevent smoking: The National Cancer Institute guide to strategies that succeed.* Rockville, MD: US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Cancer Institute.

National Clearinghouse for Alcohol and Drugs (NCADI). (1999). *State facts on tobacco and cancer.* http://www.health.org/pubs/qdocs/tobacco/state.htm. Accessed 4/20/99.

Ontario Ministry of Education. (1989). *Resource guide: Media literacy, intermediate, senior division.* Toronto: Queen's Printers, 6–7.

Pentz, M.A., Dwyer, J.H., MacKinnon, D.P., Flay, B.R., Hansen, W.B., Wang, E.Y.I., & Johnson, C.A. (1989). Multicommunity trial for primary prevention of adolescent drug abuse. *Journal of the American Medical Association, 261,* 3259–3266.

Perry, C.L., Kelder, S.H., Murray, D.M., & Klepp, K. (1992). Communitywide smoking prevention: Long-term outcomes of the Minnesota Heart Health Program and the Class of 1989 Study. *American Journal of Public Health, 82*(9), 1210–1216.

Pierce, J.P., Choi, W.S., Gilpin, E.A., Faskas, A.J., & Berry, C.C. (1998). Tobacco industry promotion of cigarettes and adolescent smoking. *Journal of the American Medical Association, 279,* 511–515.

Pierce, J.P., Gilpin, E.A., Emery, S.L, Farkas, A.J., Zhu, S.H., Choi, W.S., Berry, C.C., Distefan, J.M., White, M.M, Soroko, S., & Navarro, A. (1998). *Tobacco control in California: Who's winning the war? An evaluation of the Tobacco Control Program, 1989–1996.* La Jolla, CA: University of California, San Diego.

Rohrbach, L.A., D'Onofrio, C.N., Backer, T.E., & Montgomery, S.B. (1996). Diffusion of school-based substance abuse prevention programs. *American Behavioral Scientist, 39*(7), 919–934.

Rohrbach, L.A., Graham, J.W., & Hansen, W.B. (1993). Diffusion of a school-based substance abuse prevention program: Predictors of program implementation. *Preventive Medicine, 22,* 237–260.

Severson, H.H., Glasgow, R., Witt, R., Brozovsky, P., Zoref, L., Black, C., Biglan, A., Ary, D., & Weissman, W. (1991). Preventing the use of smokeless tobacco and cigarettes by teens: Results of a classroom intervention. *Health Education Research 6*(1), 109–120.

Silvia, E.S., & Thorne, J. (1997). *School-based drug prevention programs: A longitudinal study in selected school districts* (Executive Summary, Final Report). Research Triangle Park, NC: Research Triangle Institute.

Skager, R., & Austin, G. (1998). *Seventh biennial California student substance use survey.* Preliminary findings. Sacramento, CA: California Department of Justice, Office of the Attorney General.

Sussman, S., Dent, C.W., Stacy, A.W., Sun, P., Craig, S., Simon, T.R., Burton, D., & Flay, B.R. (1993). Project Towards No Tobacco Use: 1-year behavioral outcomes. *American Journal of Public Health, 83*(9), 1245-–1250.

Sussman, S., Lichtman, K., Ritt, A., & Pallonen, U. (1999). Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products. *Substance Use and Misuse, 34*(11).

Thompson, E.L. (1978). Smoking education programs 1960–1976. *American Journal of Public Health, 68*(3), 220–257.

Tobacco Education and Research Oversight Committee. (1997). *Toward a tobacco-free California: Renewing the commitment 1997–2000.* Sacramento, CA: Department of Health Services, Tobacco Control Section.

Tobler, N. (1993). Updated meta-analysis of adolescent drug abuse prevention programs. In Montoya, C.; Ringwalt, C.; Ryan, B; and Zimmerman, R., (Eds.), *Evaluating school-linked prevention strategies: Alcohol, tobacco and other drugs (pp. 71–86).* San Diego, CA: UCSD Extension, University of California.

U.S. Department of Health & Human Services. (1994). *Youth and tobacco: Preventing tobacco use among young people. A report of the Surgeon General.* Washington, DC: Government Printing Office.

Weiler, D., LaGoy, A., Crane, E., & Rovner, A. (1998). *An evaluation of K-12 service-learning in California. Phase II final report.* Sacramento, CA: California Department of Education.

Weiss, C.H. (1972). *Methods for assessing program effectiveness.* Englewood Cliffs, NJ: Prentice-Hall.

Wiencke, J.K. (1999). Early age at smoking initiation and tobacco carcinogen DNA damage in the lung. *Journal of the National Cancer Institute, 91*(7), 614–619.

Worden, J.K., Flynn, B.S., Solomon, L.J., Secker-Walker, R.H., Badger, M.S., & Carpenter, J.H. (1996). Using mass media to prevent cigarette smoking among adolescent girls. *Health Education Quarterly, 23*(4), 453–468.

Wright, S.R. (1979). *Quantitative methods and statistics: A guide to social research.* Beverly Hills, CA: Sage Publications.